

DocDay VT & Minisymposium 2024 Program

Monday 1st July 2024

Time	Activity	Location
9:00 - 9:30	Registration	Lobby
9:30 - 9:40	<i>Welcome/Opening Session</i> Moderation: Ulrich Hirn	HS i9
	<i>Research Proposals – Session A: Advanced Process Engineering and Simulation</i> Chair: Heidrun Gruber-Wölfler	HS i9
9:40 – 10:00	<i>Continuous Flow Syntheses of Covalent Organic Frameworks</i> Michael König	
10:00 – 10:20	<i>Efficient Hybrid Modeling for Sustainable Processes: Integrating Mechanistic Insights and Machine Learning</i> Michael Mitterlindner	
10:20 – 10:40	<i>Development of CFD surrogate reactor models for optimization, control and scale-up of gassed and stirred tanks</i> Lukas Gsenger	
10:40 – 11:00	<i>Uncertainty Quantification of DEM Simulations</i> Lukas Maier	
	<i>Research Proposals – Session B: Biomaterials and Chemical Processes</i> Chair: Wolfgang Bauer	HS i8
9:40 – 10:00	<i>Efficient Decentralised Electrochemical Methanol Production (Gas to Methanol)</i> Hafiz Farooq Imtiaz	
10:00 – 10:20	<i>All-cellulose composites as precursors for activated carbon</i> Alexa Scheer	
10:20 – 10:40	<i>Lignin Isolation and its Implementation in Epoxy Resin Production</i> Sebastian Sandner	
11:00 – 11:30	Coffee Break	Lobby

Time	Activity	Location
	<p><i>Research Proposals – Session C: Efficient Hydrogen Production and Energy Storage</i></p> <p>Chair: Viktor Hacker</p>	HS i8
11:30 – 11:50	<p><i>Optimization of the SO₂ depolarized electrolyser for more economic, less energy intensive alternative hydrogen production</i></p> <p><i>Lukas Fernando Roessler Escudero</i></p>	
11:50 – 12:10	<p><i>System Modeling of a Fixed-Bed Chemical Looping Hydrogen Process for Energy Storage</i></p> <p><i>Claudia Pröll</i></p>	
12:10 – 12:30	<p><i>Component-based degradation routes on PEM water electrolysis</i></p> <p><i>Özge Kiziltan</i></p>	
	<p><i>Research Proposals – Session D: Innovations in Fuel Cell Technology</i></p> <p>Chair: Merit Bodner</p>	HS i9
11:30 – 11:50	<p><i>Mitigating Over-Humidification Risks for Enhanced Performance and Durability of Fuel Cell-Powered Electric Vehicles</i></p> <p><i>Maximilian Käfer</i></p>	
11:50 – 12:10	<p><i>Investigation of Advanced Membrane Electrode Assemblies in High Temperature Polymer Electrolyte Fuel Cells for Heavy Duty Vehicle Applications</i></p> <p><i>Florian Tritscher</i></p>	
12:10 – 12:30	<p><i>Development of Membrane Electrode Assembly (MEA) with Modified Nanofiber Structure</i></p> <p><i>Muhammad Yusro</i></p>	
12:30 – 13:30	Lunch Break	
13:30 – 14:00	<p><i>Q&A Administrative Aspects of the Doctoral Studies</i></p> <p>Moderation: Heidrun Gruber-Woelfler</p>	HS i9
	<p><i>Session I: Fiber- and Cellulose Engineering</i></p> <p>Chair: Marlene Kienberger</p>	HS i9
14:00 – 14:20	<p><i>Fractionation of wood due to industrial chipping – Effects and potential for Kraft pulping of European spruce</i></p> <p><i>Roman Poschner</i></p>	

Time	Activity	Location
14:20 – 14:40	<i>Comparison of Film Press and Spray Application of Polysaccharide Based Coatings on Paper and Board</i> Anna Mayrhofer	
14:40 – 15:00	<i>Probing interfacial interactions – Ionic liquids and cellulose</i> Lukas Pachernegg	
	<i>Session 2: Innovative Processes for Waste Stream Recycling / Upcycling</i> Chair: Hans Schnitzer	HS i8
14:00 – 14:20	<i>Characterization and isolation of molecules from tomato plant residues using sustainable green solvents</i> Adrian Drescher	
14:20 – 14:40	<i>Electrochemical Investigation of Symmetric Aminoquinones</i> Janine Maier	
14:40 – 15:00	<i>Polymer recycling solutions for textile waste containing elastane</i> Emanuel Boschmeier	
15:00 – 15:30	Coffee Break	Lobby
	<i>Session 3: Advances in CO₂ Sequestration and Utilization</i> Chair: Thomas Gamse	HS i8
15:30 – 15:50	<i>CO₂-Sequestration of MSWI residues via direct, aqueous carbonation</i> Sarah Reiter	
15:50 – 16:10	<i>CO₂ utilization by catalytic hydrogenation</i> Kamonrat Suksumrit	
	<i>Session 4: Innovations in Process Design and Optimization</i> Chair: Thomas Wallek	HS i9
15:30 – 15:50	<i>Novel Concepts for Processing and Automation of Pharmaceutical End-to-End Manufacturing</i> Lisa Kuchler	
15:50 – 16:10	<i>Continuous hydrolysis in oscillatory flow rheology as process intensification strategy for biorefineries</i> Judith Buchmaier	

Time	Activity	Location
16:10 – 17:10	<i>Poster Session (+ best poster/presentation voting)</i>	HS i9 / Lobby
17:10 - 20:00	Social Event - Barbeque	

Poster Session

1) *Solvent extraction of aromatic aldehydes from biorefinery side-streams*

Alexander Kaufmann

2) *Advances in Photometric Fluoride Measurements in Effluent Fuel Cell Water*

Mathias Heidinger

3) *Aging gracefully? Shelf-life investigations of catalyst ink for polymer electrolyte fuel cells*

Mario Kircher

4) *A versatile method for quantifying porous carbonaceous material in different wastewater matrices*

Christian Margreiter

5) *Production of activated carbon: Thermal activation of gasification char*

David Gurtner

6) *Characterization of pyrometallurgical systems by electrochemical methods*

Simon Moll

7) *Experimental study on stirrer scale-up in the 2-20 liter range*

Thomas Senfter

8) *Life cycle-oriented cost assessment of an integrated energy system*

Doris Rixrath

9) *Mixed-Matrix Membranes on the way to Multi-Layer Membranes*

Jana Marx

10) *The reverse water gas shift reaction: Investigation of the reaction with nickel and perovskite based catalysts*

Marion Andritz

11) *Utilizing Pressure-Driven Membrane Processes for Concentrating Sugar Solution*

Eva Walcher

12) *Composition of textile waste in Vienna*

Pablo Kählig

Tuesday 2nd July 2024

Time	Activity	Location
9:00 – 10:00	<p><i>Keynote Presentation: 20 Years of Carbonate Based Ionic Liquids Synthesis (CBILS®): A Startup Journey from a Greek Beach towards World Leadership in Manufacture of Ionic Liquids</i></p> <p>Keynote speaker: Roland Kalb</p> <p>Moderation: Ulrich Hirn</p>	HS i9
10:00 – 10:30	<i>Coffee Break</i>	
	<p><i>Session 5: Modeling and Simulation in Engineering / Particle Forum</i></p> <p>Chair: Stefan Radl</p>	HS i9
10:30 – 10:50	<p><i>Robot-LDA line measurements on a 30° inclined flat plate in an open wind channel with and without plasma actuation effect</i></p> <p>Manuel Berger</p>	
10:50 – 11:10	<p><i>Application of a novel hybrid multi-scale model in a fluidized bed with an immersed tube</i></p> <p>Behrad Esgandari</p>	
11:10 – 11:30	<p><i>A Random Forest modeling approach for packed column hydraulics</i></p> <p>Marcus Schlager</p>	
11:30 – 11:50	<p><i>Discrete Modeling of Interlocking and Cohesive Bulk Solids using Tetrapods</i></p> <p>Stefan Radl</p>	
	<p><i>Session 6: Advancements in Gas Processing and Biomass Gasification Technologies</i></p> <p>Chair: Gernot Krammer</p>	HS i8
10:30 – 10:50	<p><i>Design of gas disperser for power to gas processes in bubble columns</i></p> <p>Florian Klapal</p>	
10:50 – 11:10	<p><i>Load-flexible biogas methanation in a cooled tube reactor</i></p> <p>Katrin Salbrechter</p>	
11:10 – 11:30	<p><i>Comparative Assessment of Solid Phase Adsorption Methodologies for Tar Quantification in Biomass Gasification</i></p> <p>Michael Kresta</p>	

Time	Activity	Location
11:50 – 12:20	<i>Coffee Break</i>	Lobby
12:20 – 12:50	<i>Awards and Closing Session</i>	HS i9
	Moderation: Ulrich Hirn	
	Best Presentation Award Best Poster Award	