



# INTERNATIONAL BATTERY PRODUCTION CONFERENCE

27 to 29 November 2024

## Conference Programme

Event location: Steigenberger Parkhotel Braunschweig, Germany

### Day 1 of the conference

#### 27.11.2024

Time									Duration			
08:30	Seminar participants: Arrival and registration								00:30			
	<b>Room Maschinenhalle</b>				<b>Room Nimés 1+2</b>							
09:00					SEMINARS (separate registration necessary)				01:30			
10:30					Break							00:10
10:40					SEMINARS (separate registration necessary)							00:50
11:30					Break							00:10
11:40					SEMINARS (separate registration necessary)							01:20
13:00					Arrival, registration and lunch							
14:00	Welcome Talks								00:30			
14:30	Keynote				From Niche Market to Essential Technology: Prospects for LFP Production in Europe				00:30			
15:00	Keynote				Scaling European Battery Production				00:30			
15:30	Break								00:20			
15:50	<b>Scaling up active material production</b>	<b>Chair: Zellmer</b>	<b>Institution</b>	<b>00:45</b>	<b>AI-assisted battery production</b>	<b>Chair: Schilde</b>	<b>Institution</b>	<b>00:45</b>	00:45			
	From material development to large scale production of cathode active materials – How to close the gap	Katja Kretschmer	IBU-tec advanced materials AG	00:15	PROTEO – Revolutionizing Battery Design with Advanced Digital Tools	Elixabete Ayerbe	CIDETEC Basque Research and Technology Alliance	00:15				
	The Glatt Pow(d)er Synthesis – Aerosol-based processes to produce battery materials	Johannes Buchheim	Glatt Ingenieurtechnik GmbH	00:15	Artificial intelligence informed end-of-line testing in lithium-ion battery production	Tessa Krause	Precitec GmbH & Co KG	00:15				
	Cathode Materials Pilot-Plant “Powder-Up!” – Ready for Operation	Peter Axmann	Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (ZSW)	00:15				00:15				
16:35	Discussion								00:15			
16:50	Break								00:10			
17:00	<b>Slurry processing</b>	<b>Chair: Kandula</b>	<b>Institution</b>	<b>00:45</b>	<b>Safe batteries and thermal runaway investigations</b>	<b>Chair: Schröder</b>	<b>Institution</b>	<b>00:45</b>	00:45			
	Challenges in Slurry Mixing Process for Li-Ion Battery Electrode Manufacturing	Tiago Charana	CeNTI – Centre for Nanotechnology and Advanced Materials	00:15	Battery research in the context of metrology for environmental & climate protection - quality assurance, safety, and digital product passport	Ghazaleh Esmaeelzade	Physikalisch-Technische Bundesanstalt (PTB)	00:15				
	Innovative Battery Production with Eco-Friendly Water-Based Binders	Neslihan Yuca	Pomega Energy Storage Technologies Corporation	00:15	Thermal Runaway Mitigation in NMC Lithium-Ion Cells: Assessing the Effectiveness of Thermal Insulation Materials	Elena Gimadieva	Otto von Guericke University Magdeburg	00:15				
	Transfer of the continuous production of battery slurry to different extruder scales	Juan Fernando Meza Gonzalez	Karlsruhe Institute of Technology	00:15	Thermal runaway characteristics and gas emission from sodium-ion cells – impact of state of charge level	Kofi Owusu Ansah Amano	Otto von Guericke University Magdeburg	00:15				
17:45	Discussion								00:15			
18:00	Postersession								01:00			
19:00	Apero											

**Day 2 of the conference**

**28.11.2024**

Time									Duration
08:45	Morning Address								00:15
09:00	Keynote Carbon and water footprint of battery-grade lithium from brine and spodumene: A simulation-based LCA								00:30
09:30	Transit								00:05
	Room Maschinenhalle				Room Nimès 1+2				
	Topic	Speaker	Institution	Duration	Topic	Speaker	Institution	Duration	
09:35	<b>Diagnostics in electrode and battery production</b>	Chair: Wang		00:45	<b>Next generation (silicon-based) anode materials</b>	Chair: Ohsaki		00:45	00:45
	Porosity detection on Li-ion battery electrode using Laser Speckle Photometry	Ulana Cikalova	Fraunhofer IKTS	00:15	Vacuum Coating Technologies for Lithium-Ion Batteries: Silicon-based Next Generation Anodes	Claus Luber	Fraunhofer FEP	00:15	
	Non-invasive electrochemical defect identification in battery cells through quantum imaging	Gary Kendall	CDO2 Germany	00:15	Investigations of Silicon Anodes in Sulfide-Based All-Solid State-Batteries	Lukas Alexander Dold	Fraunhofer Institute for Solar Energy Systems ISE	00:15	
	Interpretation of cell-to-cell variation through process identification and statistical analysis	Tom Rütther	University of Bayreuth	00:15	Comparison of magnetron-sputtered lithium and silicon anodes for solid-state batteries	Julian Brokmann	Fraunhofer Institute for Surface Engineering and Thin Films IST	00:15	
10:20	Discussion								00:15
10:35	Postersession + Coffee break								01:25
12:00	Lunch break								01:00
13:00	Keynote Standardization and Innovation as Enabler for Global Competiveness								00:30
13:30	Keynote Elemental stewardship: its role in advancing net-zero								00:30
14:00	Break								00:10
14:10	<b>Innovative drying methods for battery electrodes</b>	Chair: Mund	Institution	00:45	<b>Processing of anorganic solid state electrolytes and batteries</b>	Chair: Dröder	Institution	00:45	00:45
	Induction heating for accelerated drying of aqueous and solvent based electrode wet films	Max von Horstig	TU Braunschweig, iPAT	00:15	Blue laser sintering of lithium lanthanum zirconate (LLZO)	Florian Ribbeck	Fraunhofer-Institut für Lasertechnik, ILT	00:15	
	Scaling effects of fast laser drying processes in battery production	Delil Demir	Fraunhofer Institute for Laser Technology (ILT)	00:15	Enabling the Coating Process of Sulfide-Based Solid-State Battery Components for Roll-to-Roll Production in an Inert Atmosphere	Elena Jaimez-Farnham	Technical University of Munich	00:15	
	IR-LED Drying of Lithium-Ion Battery Anodes: Opportunities and Challenges	Larissa von Riewel	Heraeus Noblelight	00:15	Influence of the Process Atmosphere on the Assembly of Sulfide Solid-State Batteries	Timon Scharmann	TU Braunschweig, IWF	00:15	
14:55	Discussion								00:15
15:10	Break								00:15
15:25	<b>Dry Coating</b>	Chair: Kwade	Institution	00:45	<b>Sustainability along the value chain</b>	Chair: Burheim	Institution	00:45	00:45
	Impact of Particle Shape on PTFE-Fibrillation and Film Properties in Dry Coating Using Calendering for Battery Electrodes	Marcella Horst	TU Braunschweig, iPAT	00:15	Using parametric life cycle assessment models for absolute environmental sustainability assessments of lithium-ion batteries	Abdur-Rahman Ali	TU Braunschweig, IWF	00:15	
	Non-PTFE based dry coating process by Fraunhofer ISIT	Jannes Ophey	Fraunhofer ISIT	00:15	Energy-saving potential in HVAC system for dry rooms in battery production	Mohammad Mehdi Salehi Dezfouli	Norwegian University of Science And Technology	00:15	
	Current challenges and potential solutions for dry electrode manufacturing – will it replace wet processing completely?	Joscha Schnell	P3 automotive GmbH	00:15	Idea Generation Workshop as a Tool for Facilitating Eco-design and Implementing a Life Cycle Perspective in Battery Production	Emanuel Bengtsson	RISE Research Institutes of Sweden AB	00:15	
16:10	Discussion								00:15
16:25	Break								00:10

16:35	<b>Recycling of LIB: Disassembly and mechanical processing</b>	<b>Chair: Zetzener</b>	<b>Institution</b>	<b>00:45</b>	<b>Industry Session I: Dry Electrode Processing</b>	<b>Chair: Kwade</b>	<b>Institution</b>	<b>01:00</b>	01:00
	Automated Cell Opening in Disassembly Process for Recycling of Lithium-Ion Batteries	Shubiao Wu	TU Braunschweig, IWF	00:15	Improved Solids Handling Solutions for Dry Battery Electrode Production	Hans Schneider	Zeppelin Systems GmbH	00:15	
	Disassembly technologies for automotive batteries: automation and concepts	Johannes Feik	FFT Produktionssysteme GmbH & Co. KG	00:15	Material Feeding and Distribution for Battery Dry Coating	Urs Helfenstein	Coperion K-Tron LLC	00:15	
	Mechanical Recycling in pilot scale: Impact and effects of dismantling level and process conditions	Steffen Fischer, Dennis Beusen	TU Braunschweig, IPAT	00:15	Processing and scaling of structured dry mixes for dry battery electrodes (DBE) on a scale from 0.1 l to 500 l	Stefan Gerl	Maschinenfabrik Gustav Eirich GmbH & Co. KG	00:15	
	Discussion			00:15	Continuous extrusion-mixing of dry electrode masses for more cost-effective battery manufacturing	Philipp Stössel	Bühler AG, Battery Solutions	00:15	
17:35	Break								00:15
17:50	Break								00:15
18:05	Conversion for dinner				<b>Industry Session II: Industrial characterization and simulation methods</b>	<b>Chair: Kurrat</b>	<b>Institution</b>	<b>01:15</b>	
					Optimized Electrodes and Separators by Particle Size Adjustment and advanced Particle- and Pore Size Analysis	Lena Weigold	Retsch GmbH	00:15	
					EIS and AI: Considerations to make before trusting your data to AI!	Tim Johannsen	Bio-Logic Science Instruments GmbH	00:15	
					Multi-scale characterization and elemental analysis with electron microscopy for battery manufacturing and research	Jens Greiser	Thermo Fisher Scientific	00:15	
					Industrial-Scale Production of Carbonnanotubes (CNTs) for Gigafactories	Maximilian Münzner	Netzsch GmbH	00:15	
					VW Group – Unified cell format as key for the standardization strategy	Sebastian Schoeniger	Volkswagen AG	00:15	
19:20	Discussion								00:15
19:35	Break+Reception								00:25
20:00	Gala Dinner								

**Day 3 of the conference**

**29.11.2024**

Time									Duration	
09:00	Keynote	Road from Prototype to Pilot production: Insights into design and process of 46950 cylindrical cells						BMW, Desiree Griebel & Daniel Pritzel	00:30	
09:30	Keynote	Sustainable Industrial Recycling at its Best - Challenges and Sustainable Solutions for Co, Ni and Li Recovery out of Black Mass						H.C. Stark, Juliane Meese-Marktscheffel	00:30	
10:00	Break									00:10
	Room Maschinenhalle				Room Nimés 1+2					
	Topic	Speaker	Institution	Duration	Topic	Speaker	Institution	Duration		
10:10	Cell assembly and finalization	Chair: Vietor		00:45	Optimized electrode and battery performance	Chair: Melzig		00:45	00:45	
	Jelly rolls for application in HV and HE battery cells with respect to design and format flexibility	Julian Grimm	Fraunhofer Institute for Manufacturing Engineering and Automation IPA	00:15	An industry-suited production process for LIB anodes with pre-lithiated SiO-C	Alice Hoffmann	ZSW - Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg	00:15		
	Mini Environments- optimized conditions for cell assembly -	Nicole Neub	Exyte Technology GmbH	00:15	Carbonate deprotonation on Ni-rich layered cathode: Development of a new cis-trans isomerism oligomer as an organic coverage	Fu-Ming Wang	National Taiwan University of Science and Technology, Taiwan	00:15		
	Achieving Stable Cycling Performance of Pure Silicon Anode for Lithium-Ion Batteries by Scalable Electrochemical Pre-Lithiation	Shiho Honda	FZ Jülich GmbH, Helmholtz Institute Münster	00:15	Influence of Passive Material Distribution and Morphology on Cathode Performance: a Computational Approach	Timo Danner	German Aerospace Center (DLR)	00:15		
10:55	Discussion									00:15
11:10	Break									00:15
11:25	Recycling of LIB: Hydrometallurgy and re-synthesis	Chair: Zetzener	Institution	00:45	Industry Session III: Characterization methods in battery production	Chair: Zellmer	Institution	01:00	01:00	
	Recovering Critical Raw Materials from Li-ion Batteries - Two step leaching and closed loop reagents process	Steven C. Lans	Back to Battery	00:15	In-line, real-time characterization of electrode slurry rheology	Fridolin Okkels	Fluidan ApS	00:10		
	Morphology and structure investigation of recycled Graphite powder after mechanical and chemical treatment process for anodic material application	Slaheddine Jabri	TU Braunschweig, Institute of Applied Physics	00:15	Industrial grade solutions on gigafactory scale based on the use case of X-ray inline inspection	Markus Möller	Exacom GmbH	00:10		
	Effects of different impurities on the re-synthesis of NMC particles	Markus Rojer	TU Braunschweig, IPAT	00:15	Development of a validated simulation model for all solid-state batteries	Roman Buchheit	Math2Market GmbH	00:10		
12:10	Discussion									00:15
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12:25	Break									00:10
										00:10
12:45	Poster Prizes	Prof. Arno Kwade / Prof. Christoph Herrmann								00:10
13:00	Lunch									
13:30	Tour to the Battery LabFactory Braunschweig									02:00