



## Preliminary Conference Program (12/07/2023)

Sunday, September 24, 2023			
17:00 – 19:00	Registration & Welcome Reception, Loft nhow Hotel		
Monday, September 25, 2023			
08:30 - 09:00	Registration, Poster & Exhibition, Loft nhow Hotel		
<b>09:00 – 10:10</b>	<b>Opening Ceremony</b> Room: nhow 2+3+4		
09:00 – 09:30	tbd (Martin Gräbner, TU Bergakademie Freiberg – Germany)		
09:30 – 09:50	Building a sustainable circular economy with complementary recycling technologies: why an enabling policy framework is key? (Annick Meerschman, Cefic – Belgium)		
09:50 – 10:10	tbd (Nico van Dooren, Port of Rotterdam – Netherlands)		
10:10 – 10:30	Group Picture		
10:30 – 11:00	Coffee Break		
<b>11:00 – 12:40</b>	<b>Session 1: Industrial gasification technologies</b> <b>Chair: Martin Gräbner</b> Room: nhow 2+3+4	<b>Session 2: Assessment and certification</b> <b>Chair: Roh Pin Lee</b> Room: nhow 5	<b>Session 3: Carbon capture and sequestration</b> <b>Chair: Aleksander Sobolewski</b> Room: nhow 6+7
11:00 – 11:20	CHOREN entrained flow gasification – update of technology and projects (Albert Fink, CHOREN Industrietechnik GmbH – Germany)	Environmental and economic assessment of plastic waste recycling (Pelayo Garcia-Gutierrez, JRC - European Commission – Spain)	Geologic carbon storage as the only robust way of CO <sub>2</sub> removal: physical and numerical modeling for certification (Coen Rensma, Wintershall Dea Carbon Management Solutions – Netherlands)
11:20 – 11:40	Development and application of OMB coal-water slurry gasification technology (Guangsuo Yu, East China University of Science and Technology – China)	LCA of chemical recycling – methodological aspects and practical application (Fabian Loske, Sphera Solutions GmbH – Germany)	Innovative CCS for gas turbine combined cycles (Marcus Scholz, General Electric International Inc. – Spain)
11:40 – 12:00	Restart of gasification in Vřesova (Zdeněk Jonát, Sokolovská uhelná, právní nástupce, a.s. – Czech Republic)	Economic and environmental assessment of chemical recycling via pyrolysis: A case study for engineering plastics (Malte Hennig, Karlsruhe Institute of Technology – Germany)	Carbon capture on ships – an energy flow-based analysis using system simulation (Bernhard Thaler, Large Engines Competence Centre Graz – Austria)

12:00 – 12:20	Feedstock flexible routes for biomass-to-chemicals and fuels (Robin Post van der Burg, Torrgas / Torrgreen – Netherlands)	Benefits & limits of mass balance approach and LCA for the evaluation of chemical recycling technologies (Florian Keller, TU Bergakademie Freiberg – Germany)	Carbon capture on ships (Vanessa Kaub, Ruhr-University Bochum – Germany)
12:20 – 13:20	Lunch		
13:20 – 14:40	<b>Session 4: Fluidized bed gasification</b> Chair: Jens Hannes Room: nhow 2+3+4	<b>Session 5: Concepts for waste utilization</b> Chair: Andrew Minchener Room: nhow 5	<b>Session 6: Syntheses and related aspects</b> Chair: Dominik Unruh Room: nhow 6+7
13:20 – 13:40	Optimizing fluidized bed gasification solutions for sustainable biofuels (Frank Ligthart, Sumitomo SHI FW – Finland)	Municipal waste management in Poland – state of the art (Aleksander Sobolewski, Institute of Energy and Fuel Processing Technology – Poland)	Advanced equation of state method for modeling phase equilibria in the Fischer-Tropsch Synthesis (Ke Zheng, Institute of Coal Chemistry, Chinese Academy of Sciences – China)
13:40 – 14:00	Experimental investigation on HTW gasification of residual biomass at pilot scale (Fabiola Panitz, TU Darmstadt – Germany)	Renewable and recycled carbon DME from non-recyclable municipal waste (Lizzie German, Dimeta B.V. – Netherlands)	Study on closed-loop utilization of FTS water through gasification (Liping Zhou, Synfuels China Technology Co., Ltd. – China)
14:00 – 14:20	Gasification of plastics waste in a pilot-scale bubbling fluidized bed reactor (Gabriele Cali, Sotacarbo s.p.a. – Italy)	Waste-to-methanol: simulation-based comparison of potential thermochemical recycling processes for municipal solid waste (Sebastian Bastek, TU Munich – Germany)	High-capacity multi-feedstock methanation – from model to 20 kW pilot plant (Andreas Krammer, Montanuniversität Leoben – Austria)
14:20 – 14:40	Enabling second-generation biofuels and chemicals for hard-to-abate sectors (Michel Chornet, Enerkem – Canada)	Current status of the project of polygeneration system using various fuel (coal, wastes) with CO <sub>2</sub> capture (Satoshi Umemoto, Central Institute of Electric Power Industry – Japan)	Direct conversion of syngas to olefins over bifunctional catalysts: catalyst design for increased olefin yield and stability (Glenn Pollefeyt, Dow Benelux BV – Netherlands)
14:40 – 15:10	Coffee Break		
15:10 – 16:30	<b>Session 7: Component development</b> Chair: Guangsuo Yu Room: nhow 2+3+4	<b>Session 8: Feedstock preparation</b> Chair: Jörg Kleeberg Room: nhow 5	<b>Session 9: Methanol value chain</b> Chair: Alexander Rösch Room: nhow 6+7
15:10 – 15:30	Model-based development of new multi-burner entrained-flow gasifier concepts (Fengbo An, TU Bergakademie Freiberg – Germany)	Corn stover pre-processing and ultra-dense phase feeding into the R-GAS entrained flow gasifier (Zach El Zahab, GTI Energy – United States)	Innovative methanol synthesis for the valorization of solid waste (Henrik Schlösser, Air Liquide Forschung und Entwicklung GmbH – Germany)
15:30 – 15:50	Burner development and optimization for high pressure entrained flow gasifiers (Tobias Jakobs, Karlsruhe Institute of Technology – Germany)	Supercritical methanol depolymerization and hydrodeoxygenation of biomass over reduced copper porous metal oxides (Jian Li, Xinjiang University – China)	Production of methanol from steel-mill gases – from laboratory to pilot plant (Tim Schulzke, Fraunhofer UMSICHT – Germany)
15:50 – 16:10	Experimental study on the atomization of coal water-slurry in an impinging	Coal fines briquetting with low-density polyethylene: towards a sustainable gasifier feed (Hein	Synthetic fuels from C3-Mobility to DeCarTrans to MtJet (Malena

	entrained-flow gasifier (Yan Gong, East China University of Science and Technology – China)	Neomagus, North-West University – South Africa)	Peuker, TU Bergakademie Freiberg – Germany)
16:10 – 16:30	Effect of wall slagging on turbulent falling film flow characteristics in scrubbing-cooling tube (Yifei Wang, East China University of Science and Technology – China)	Thermochemical phosphorus recovery from sewage sludge (Eric Franke, TU Bergakademie Freiberg – Germany)	ExxonMobil methanol-to-X low emissions fuel (Tracy Loughran, ExxonMobil Engineering Europe Ltd. – United Kingdom)
18:00 – 22:00	Conference Dinner, Stadshaven Brouwerij		
<b>Tuesday, September 26, 2023</b>			
<b>09:00 – 10:20</b>	<b>Industry Panel Session: Strategies towards a Net-Zero Carbon Economy</b> Room: nhow 2+3+4		
10:20 – 10:50	Coffee Break		
<b>10:50 – 12:30</b>	<b>Session 10: Plasma-enhanced conversion</b> <b>Chair: Markus Reinmöller</b> Room: nhow 2+3+4	<b>Session 11: Pyrolysis technologies</b> <b>Chair: Stefanie Eiden</b> Room: nhow 5	<b>Session 12: Gasification kinetics</b> <b>Chair: tbc</b> Room: nhow 6+7
10:50 – 11:10	Overview of experimental plasma gasifiers (Vadim Kuznetsov, TU Bergakademie Freiberg – Germany)	Advanced recycling of PVC waste (Eric Romers, INOVYN Manufacturing Belgium – Belgium)	A lumped chemical kinetics approach for thermochemical recycling of solid plastic waste components and mixtures through pyrolysis and gasification (Matteo Pelucchi, Politecnico di Milano – Italy)
11:10 – 11:30	Conversion of pulverized biomass upon the contact with thermal plasma (Kentaro Umeki, TU Munich – Germany)	tbd (Stephan Aschauer, Carbolig GmbH – Germany)	Kinetic investigation on the thermochemical conversion of nuclear graphite with hydrogen and steam (Sergei Shalnev, TU Bergakademie Freiberg – Germany)
11:30 – 11:50	Technical advantages of plasma gasification fuel flexibility in the context of carbon circular economy, hydrogen, and e-/bio-fuels production and their impacts on greenhouse gas emissions reduction (Sylvain Motycka, SGH2 Energy Global Corporation – United States)	Managing waste variability in a pyrolysis process (Geoff Smith, Itero Technologies – United Kingdom)	An operando analysis for gasification of carbonaceous material (Lu Ding, East China University of Science and Technology – China)
11:50 – 12:10	Plasma-based CO <sub>2</sub> -utilization for a circular carbon economy: advanced power electronics promotes CO yield increase through ultra-fast microwave pulsation (Carsten Winnewisser, TRUMPF Hüttinger – Germany)	Demonstration of biomass conversion with integrated pyrolysis and reforming – the thermo catalytic reforming (TCR) in ToSynFuel project (Robert Daschner, Fraunhofer UMSICHT – Germany)	Co-gasification of PET waste plastics and Aduunchuluun lignite (Enkhsaruul Byambajav, National University of Mongolia – Mongolia)

12:10 – 12:30	Decarbonization through molecular recycling via recycling via plasma assisted gasification (Pablo Perez, InEnTec – United States)	Moving towards a circular waste economy through the usage of pyrolysis technology (Chris Genzel, AmoCarbon – Germany)	High pressure steam-gasification kinetics up to 80 bar by drop tube reactor KIVAN (Stefan Guhl, TU Bergakademie Freiberg – Germany)
12:30 – 13:30	Lunch		
13:30 – 15:10	<b>Session 13:</b> <b>Partial oxidation</b> <b>Chair: Matthias Müller-Hagedorn</b> Room: nhow 2+3+4	<b>Session 14:</b> <b>Pyrolysis processes I</b> <b>Chair: Johan van Dyk</b> Room: nhow 5	<b>Session 15:</b> <b>Mineral matter I</b> <b>Chair: Jin Bai</b> Room: nhow 6+7
13:30 – 13:50	Synthesis gas from recycling of CO <sub>2</sub> , a cornerstone for a CO <sub>2</sub> -neutral chemical industry (Project SCOORE) (André Bader, BASF SE – Germany)	Insight into the pyrolysis behavior of waste plastics using in-situ pyrolysis time-of-flight mass spectrometry (Haoquan Hu, Dalian University of Technology – China)	Understanding the formation of agglomerates in 1 MW <sub>th</sub> pilot plant during chemical looping gasification of pre-treated straw (Michael Müller, Forschungszentrum Jülich GmbH – Germany)
13:50 – 14:10	Experimental and numerical study of high-pressure partial oxidation of natural gas with CO <sub>2</sub> recycling (Gabriel Gonzalez Ortiz, TU Bergakademie Freiberg – Germany)	Numerical simulation of pyrolysis of RPF using a detailed chemical kinetic model (Kenji Tanno, Central Research Institute of Electric Power Industry – Japan)	Crystallization-controlled fusion mechanism of the amorphous fly ash from the Shell coal gasifier by particle sieving (Xiaoming Li, Taiyuan University of Science and Technology – China)
14:10 – 14:30	Options for low carbon CO production by POX processes (Elena Marras, Air Liquide Forschung und Entwicklung GmbH – Germany)	High temperature pyrolysis of composite wastes for hydrogen and methane rich syngas production (Hasan Can Okutan, TU Istanbul – Turkey)	Development of a method to predict ash agglomeration in fluidized beds (Dominik Kirschenmann, TU Bergakademie Freiberg – Germany)
14:30 – 14:50	SAF from municipal solid waste: chemical process simulation and design of the second gasifier and syngas cooler for the first world commercial plant (Mohammad Haghnegahdar, SCHMIDTSCHACK, ARVOS GmbH – Germany)	High-pressure pyrolysis in a drop-tube reactor: effect of the pressure and temperature on the resulting products and kinetics (Markus Reinmöller, Technical University of Denmark – Denmark)	The key for sodium-rich Zhundong coal utilization in entrained flow gasifier: the impact of sodium on the corrosion behavior of refractory lining (Jinghong Gao, Ningxia University – China)
14:50 – 15:10	Model-based investigation of plasma integration in partial oxidation processes (Sophie Rodmacher, TU Bergakademie Freiberg – Germany)	Pyrolysis of polymethyl methacrylate (PMMA) with focus on recovery of chemically valuable products (Stefan Pielsticker, RWTH Aachen University – Germany)	Vitrification of incineration bottom ash in a municipal solid waste-fueled demonstration-scale slagging gasifier (Stephan Heberlein, Nanyang Technological University – Singapore)
15:10 – 15:40	Coffee Break		
15:40 – 16:40	<b>Session 16:</b> <b>Chemical looping gasification</b> <b>Chair: Jason Laumb</b> Room: nhow 2+3+4	<b>Session 17:</b> <b>Pyrolysis Processes II</b> <b>Chair: Haoquan Hu</b> Room: nhow 5	<b>Session 18:</b> <b>Mineral matter II</b> <b>Chair: Stefan Guhl</b> Room: nhow 6+7
15:40 – 16:00	Syngas production with CO <sub>2</sub> capture from agroforestry	Influence of temperature and Al-based catalyst on the destructuring	In-situ measurement of the mobilization of deposit formers from

	residues by chemical looping gasification (Alberto Abad, Instituto de Carboquímica – Spain)	of liquid hydrocarbons during biomass gasification (Johan van Dyk, GTI Energy – South Africa)	substitute fuels in simulated process gas atmospheres (Teres Pietschner, TU Bergakademie Freiberg – Germany)
16:00 – 16:20	Gasification of waste as key technology for closing the carbon cycle in Germany (Jens Kaltenmorgen, TU Darmstadt – Germany)	Chemical recycling of polycarbonate by pyrolysis, investigated by instrumental-analytical techniques and pilot scale experiments for the recovery of valuable compounds (Philipp Rathsack, Fraunhofer IKTS – Germany)	Migration and regulation of sodium during Zhundong coal gasification (Jin Bai, CAS Institute of Coal Chemistry – China)
16:20 – 16:40	Reactor network modeling of biomass-fueled chemical-looping gasification and chemical-looping combustion (Luis Ricardez-Sandoval, University of Waterloo – Canada)	Evaluating the integration of catalytic pyrolysis for polyolefin-rich waste recycling into light olefins (Niklas Netsch, Karlsruhe Institute of Technology – Germany)	The release and migration mechanism of chromium and lead during pyrolysis process of low-rank coal (Lingmei Zhou, China University of Mining and Technology, Beijing – China)
<b>16:40 – 18:00</b>	<b>Poster Reception, Loft nhow Hotel</b>		

### Wednesday, September 27, 2023

<b>09:00 – 10:40</b>	<b>Session 19: Alternative carbon sources Chair: Martin Gräbner Room: nhow 2+3+4</b>	<b>Session 20: Circular economy Chair: Andreas Neumann Room: nhow 5</b>	<b>Session 21: Gas cleaning Chair: Peter Seifert Room: nhow 6+7</b>
09:00 – 09:20	Circular economy pilot plants and projects at the RWE Innovation Centre in Niederaußem: current status and initial operational results (Tobias Ginsberg, RWE Power AG – Germany)	Introduction to CIRCULAR FOAM: chemical recycling technologies and routes for rigid polyurethane foam (Catherine Lövenich, Covestro Deutschland AG – Germany)	The effect of secondary oxygen supply on pyrolysis-gasification coupling two-stage entrained bed gasification performance (Zhenghua Dai, Xinjiang University – China)
09:20 – 09:40	CCU technologies for fast and feasible climate protection (Görge Deerberg, Fraunhofer UMSICHT – Germany)	Development of selective pyrolysis of polyurethane rigid foam to amine in the frame of the CIRCULAR FOAM project (Stefanie Eiden, Covestro Deutschland AG – Germany)	Development of syngas purification in polygeneration system (Hiroyuki Akiho, Central Research Institute of Electric Power Industry – Japan)
09:40 – 10:00	Pathways to circularity / net carbon dioxide neutrality in the plastics industry (Timm Schmidt, Covestro Deutschland AG – Germany)	Development of a downstream concept for rigid PU-foam pyrolysis (Henning Gröschl, Chair of Fluid Process Engineering, RWTH Aachen – Germany)	Rectisol™ goes green: proven solution for syngas purification from biomass or waste gasification (Alexander Rösch, Air Liquide Engineering & Construction – Germany)
10:00 – 10:20	High temperature electrolysis for syngas production (Alexander Michaelis, Fraunhofer IKTS – Germany)	What to do with PU? – Environmental potential of chemically recycling waste polyurethane (Martin Pillich, ETH Zürich – Switzerland)	Halide removal strategies for polygeneration IGCC plant (Hiroyuki Akiho, Central Research Institute of Electric Power Industry – Japan)
10:20 – 10:40	The biogeniV alliance – from biogenic residues to green fuels	Modeling and optimization of a polyurethane waste upcycling	Pilot testing of amine-based solvent at low-rank coal fired

	and valuable materials (Stefan Klebingat, Leibniz Institute for Plasma Science and Technology – Germany)	system (Merve Özkan, TU Dortmund – Germany)	power system (Jason Laumb, University of North Dakota, EERC – United States)
10:40 – 11:10	Coffee Break		
11:10 – 12:30	<b>Session 22: Entrained flow investigations Chair: Andreas Richter Room: nhow 2+3+4</b>	<b>Session 23: Pyrolysis Processes III Chair: tbc Room: nhow 5</b>	<b>Session 24: Innovations in waste gasification Chair: Michael Müller Room: nhow 6+7</b>
11:10 – 11:30	In-situ study on evolution of particle group and conversion of a single particle in an impinging entrained-flow gasifier (Hantao Lu, East China University of Science and Technology – China)	Process control optimization of a EoL-tire pyrolysis reactor (Christian Maas, Pyrum Innovations AG – Germany)	Pushing the boundary of high temperature slagging gasification: demonstration-scale co-gasification of sludge and municipal solid waste and the generation of waste-derived slag as NEW Sand (Grzegorz Lisak, Nanyang Technological University – Singapore)
11:30 – 11:50	CFD modeling approaches of plasma assisted entrained flow gasification (Sebastian Wilhelm, TU Munich – Germany)	Processing of metal-free end-of-life tires (EOLTs) to fuels and products: an experimental study with process simulation and economic analysis from an Australian perspective (Sankar Bhattacharya, Monash University – Australia)	DCI™, Direct carbon immobilization, a new thermo-chemical gasification process for mixed waste and biomass (Wiebe Pronker, DOPS Recycling Technologies – Netherlands)
11:50 – 12:10	Development of a model for the numerical evaluation of the phosphor release potential of sewage sludge in entrained flow gasification (Johannes Scherer, TU Bergakademie Freiberg – Germany)	Desulfurization of crude tire pyrolysis oil using a waste-based novel adsorbent (Akhil Mohan, Indian Institute of Technology Bombay – India)	Real-time feedstock analysis for gasification control (Johan van Dyk, GTI Energy – South Africa)
12:10 – 12:30	Study on multiphase flow in quench chamber of pulverized coal entrained-flow gasifier via CFD simulation (Yu Zhang, Synfuels China Technology Co., Ltd. – China)	Impact of feedstock quality on chemical recycling (Ville Nikkanen, Technical Research Centre of Finland – Finland)	Development of an advanced process control strategy in waste gasification processes for optimal economic operation (Ludovic Miraucourt, Air Liquide Forschung und Entwicklung GmbH – Germany)
12:30 – 13:30	Lunch		
13:30 – 14:50	<b>Session 25: Methane decomposition Chair: Martin Gall Room: nhow 2+3+4</b>	<b>Session 26: Carbon products Chair: Qinghua Guo Room: nhow 5</b>	<b>Session 27: CFD Chair: Zach El Zahab Room: nhow 6+7</b>
13:30 – 13:50	Methane cracking in a molten tin bubble's reactor for turquoise hydrogen production (Emmanuel Busillo, Sapienza University of Rome – Italy)	Co-pyrolysis of alkali-fused fly ash with corn stover to synthesize high-efficiency biochar composite for remediating a lead-contaminated soil (Yan Ma, China University of Mining and Technology – China)	Numerical study on turbulence chemistry interaction models for scale-up of new technologies from lab-scale to industrial scale (Martin Hutter, TU Bergakademie Freiberg – Germany)



13:50 – 14:10	A comprehensive kinetic framework for turquoise hydrogen and carbon materials production from the pyrolysis of light hydrocarbons streams (Matteo Pelucchi, Politecnico di Milano – Italy)	Coal and coal wastes to high-quality graphite for lithium-ion battery applications (Jason Laumb, University of North Dakota, EERC – United States)	Gasification of polypropylene in supercritical water: a PR-DNS study (Abouelmagd Abdelsamie, University of Magdeburg – Germany)
14:10 – 14:30	Power- and biogas-to-Liquid – a novel technology for the production of synthetic fuel by using methane, CO <sub>2</sub> , water and electricity (Andreas Waibel, CAPHENIA GmbH – Germany)	Study on recovery of residual carbon from coal gasification fine slag and the influence of oxidation on its characteristics (Liang Ren, East China University of Science and Technology – China)	Real-time flame monitoring system: a machine learning approach for flame detection and characterization (Mohsen Gharib, TU Bergakademie Freiberg – Germany)
14:30 – 14:50	Microwave plasma cracking for CO <sub>2</sub> free hydrogen, acetylene and syngas production on site and on demand (Ralf Spitzl, iplas innovative plasma systems GmbH – Germany)	Characterization and processing of pyrolytic carbon from methane pyrolysis (Gerald Hartig, Montanuniversität Leoben – Austria)	Effect of different equivalence ratios on soot formation limit and flame structure of COG impinging flame (Runmin Wu, Ningxia University – China)
14:50 – 15:20	<b>Closing Ceremony (Martin Gräbner, TU Bergakademie Freiberg – Germany)</b> Room: nhow 2+3+4		
<b>Poster Session Program, Loft nhow Hotel</b>			
01	Current research studies on green technologies and waste to energy and chemicals at Istanbul Technical University (Hasan Can Okutan, Istanbul Technical University – Turkey)		
02	High power plasma torches enabling the fossil-to-electric (F2E) transition in the manufacturing of cement (Soha Salem, TRUMPF Hüttinger – Germany)		
03	Demineralization study of waste plastic pyrolysis oil using red mud (Jin-ho Kim, Institute for Advanced Engineering (IAE) – South Korea)		
04	Current status of recycling processes for plastic waste: 1. evaluation and classification of possible input materials for chemical recycling (Wiebke Ufermann, Carbolig GmbH – Germany)		
05	Life cycle assessment for alternative use of sewage sludge through hydro-thermal liquefaction (HTL) technology (Anna Śliwińska, Główny Instytut Górnictwa – Poland)		
06	Energy balance of a decentralized disposal concept for sewage sludge by torrefaction and subsequent entrained flow gasification for gas engine use (Andreas Ewald, TU Munich – Germany)		
07	Influences of P <sub>2</sub> O <sub>5</sub> on the fluidity of ashes with different Al <sub>2</sub> O <sub>3</sub> /CaO ratios under gasification conditions (Hao Wu, East China University of Science and Technology – China)		
08	Catalytic effects, in-situ capture and utilization of alkali metals during the pyrolysis of biomass (Yujie Zhang, Ningxia University – China)		
09	Modeling chemical looping gasification with agroforestry residues: optimizing operation of a 200 MW unit for high quality syngas production with CO <sub>2</sub> capture (Alberto Abad, Instituto de Carboquímica – Spain)		
10	Life cycle assessment of different schemes of biomass pyrolysis for biochar production (Alberto Navajas, Universidad Pública de Navarra – Spain)		
11	Creating lumped models for fluidized beds using CFD (Ravi Ramesh, TU Delft – Netherlands)		
12	Characterization of pyrolysis products from plastics pyrolysis via advanced analytical techniques: GCxGC-MS and FT-ICR-MS (Philipp Rathsack, Fraunhofer IKTS – Germany)		
13	Valorization of swine manure for hydrogen or energy production with CO <sub>2</sub> capture by chemical looping processes (Alberto Abad, Instituto de Carboquímica – Spain)		
14	Preliminary screening of materials for CO <sub>2</sub> splitting as a pathway for bio-kerosene (Alberto Abad, Instituto de Carboquímica – Spain)		

15	Direct ex-situ carbonation of primary and secondary materials (Florian Schinnerl, Montanuniversität Leoben – Austria)
16	Preparation of molecularly imprinted polymer for flue gas purification from coal gangue leaching residue (Jiushuai Deng, China University of Mining and Technology Beijing – China)
17	Methane cracking in tubular quartz reactor with capillary injection for turquoise hydrogen production (Emmanuel Busillo, Sapienza University of Rome – Italy)
18	The effect of reaction mechanism on OH*, CH* chemiluminescence in methane inverse diffusion flame (Qinghua Guo, East China University of Science and Technology – China)
19	Research on carbon-neutral technology using the DARM process (Jin-ho Kim, Institute for Advanced Engineering – South Korea)
20	Renewable natural gas with carbon sequestration using bloom algae biomass as a substrate (Zaixing Huang, China University of Mining and Technology – China)
21	High-capacity multi-feed stock methanation – from model to 20 kW pilot plant (Katrín Salbrechter, Montanuniversität Leoben – Austria)
22	Economic models for evaluating different renewable energy sources (Rajenlall Siriram, North-West University – South Africa)
23	Utilization of polygeneration plants considering local feedstock potentials in Germany (Andreas Hanel, TU Munich – Germany)
24	The Danish carbon balance and its technological implications towards carbon neutrality (Markus Reinmöller, Technical University of Denmark – Denmark)
25	Robust real-time optimization for the long-term economical and sustainable operation of post-combustion carbon capture under uncertainty (Luis Ricardez Sandoval, University of Waterloo – Canada)
26	Hydrogen systems in virtual power plants: Technical possibilities and opportunities on the way to profitability (Laura Thiel, Fraunhofer IWU – Germany)
27	Development of post-mining areas in terms of the circular economy (Joanna Bigda, Institute of Energy and Fuel Processing Technology – Poland)
28	Assessment of coal relics from underground coal gasification (Lehlohonolo Mokhahlane, University of the Witwatersrand – South Africa)
29	Simulation study on single particle coal gasification reaction process (Xingjun Wang, East China University of Science and Technology – China)
30	Effect of methanol-steam reforming pretreatment on the structure and pyrolysis performance of Naomaohu sub-bituminous coal (Mei Zhong, Xinjiang University – China)
31	Reaction-induced force caused by gas-particle two phase reactions (Jianliang Xu, East China University of Science and Technology – China)
32	Research of liquid film flow characteristics on sinusoidal corrugated plates (Jie Zeng, East China University of Science and Technology – China)
33	Iron evolution and environmental assessment during aqueous phase recycling process and catalytic cracking of toluene by magnetic hydrochar (Yao Xiao, East China University of Science and Technology – China)
34	Investigations on next generation plasma-enhanced high temperature conversion technologies for future energy demands (Ronny Schimpke, TU Bergakademie Freiberg – Germany)
35	CLC a potential pathway to net carbon dioxide neutrality applying iron oxides (Ewelina Ksepko, Wrocław University of Science and Technology – Poland)

#### Thursday, September 28, 2023

08:00 – 16:00	Technical Tour ROTTERDAM	Technical Tour AMSTERDAM
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#### Friday, September 29, 2023

07:30 – 16:30	Technical Tour BRIGHTLANDS
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