8th International Freiberg Conference
on IGCC & XtL Technologies
Innovative Coal Value Chains
12-16 June 2016
Cologne, Germany

Programme

Sunday 12 June 2016

18:00 – 20:00	*Hotel Lobby* – Registration
18:00 – 20:00	**Welcome Evening, Pullman Cologne**

Monday 13 June 2016

09:00 – 10:10

Ballroom A – **Opening Ceremony**

Bernd Meyer, Institute of Energy Process Engineering and Chemical Engineering, TU Bergakademie Freiberg – Germany

Prof. Dr.-Ing. Bernd Meyer is Director of the Institute of Energy Process Engineering and Chemical Engineering (IEC) and Professor for Energy Process Engineering and Thermal Waste Treatment (EVT) at the TU Bergakademie Freiberg in Freiberg, Germany. Between 2008 and 2015, he was also the elected Rector (President) of the TU Bergakademie Freiberg. After receiving his doctoral degree, Prof. Meyer gained extensive research as well as industry experience through his work in the Brennstoffinstitut Freiberg (also known as Deutsches Brennstoffinstitut – DBI) and in Rheinbraun AG. He was also personally involved in the technology improvement of fixed-bed gasification technologies implemented at Schwarze Pumpe in Germany. Research activities at his department EVT focus on diverse issues related to fuel conversion with emphasis on syngas generation technologies. Prof. Meyer received an honorary doctorate from the National Mining University Dnipropetrovsk/Ukraine in 2012, an honorary professorship from the Lomonossov Moscow State University/Russia in 2015 and an honorary doctorate from the mining university "Gorny" St. Petersburg/Russia in 2016. From 2012 to 2015, he was also the president of the World Forum of Universities of Resources on Sustainability (WFURS). Prof. Meyer is actively involved in diverse national and international research programmes in the fields of gasification technologies, gas cleaning and ash/slag behaviour as advisory board member or speaker. Over the course of his career, he has published over 200 scientific papers and obtained more than 100 patents in the field of gasification, of which many relate to fixed-bed gasification technologies.

Ballroom A – **Plenary Speakers**

Garrelt Duin, Minister for Economic Affairs, Energy and Industry for the Federal State of North Rhine-Westphalia – Germany

Garrelt Duin studied law and protestant theology in Bielefeld and Göttingen from 1987 to 1995. Between October 2000 and October 2005, Mr. Duin was a Member of the European Parliament whereby he was a representative on the Committee on Regional Policy, Transport and Tourism until June 2004 before joining the Committee on Industrial Affairs, Research and Energy. Furthermore, from 2001 to October 2006, Mr. Duin was also the Chairman of the Council of the Municipality of Hinte. From October 2005 until June 2012, he was elected by the Constituency Emden/Aurich as Member of the German Bundestag whereby he was a member on the Committee on Economic Affairs and Technology. Between 2005 and 2009, he represented the SPD parliamentary group in the German Bundestag as their representative for Industrial Policy before becoming their Spokesman for Economic Policy from 2009 to June 2012. Between August 2010 and June 2012, he was also the Chairman of the Regional Council of East Friesland. Since 21st June 2012, Mr. Duin is the Minister for Economic Affairs, Energy and Industry for the Federal State of North Rhine-Westphalia.

Matthias Hartung, CEO, RWE Power AG – Germany

Mr. Matthias Hartung studied Mining Engineering at the Aachen Technical University (RWTH Aachen) from 1975 to 1981 and graduated with a degree in Mining Engineering (Dipl.-Ing) before joining Rheinbraun AG as a trainee in a future opencast mine. In 1983, he took up the position of Plant Operation Engineer at the Fortuna/Garsdorf opencast mine before being appointed as Operation Manager at the Bukit Asam opencast hard coal mine in Indonesia in 1985 where he worked for two years. In 1987, Mr. Hartung returned to Germany as the Prov. Head of Department at the Fortuna/Gardsdorf opencast hard coal mine. In 1988, he was promoted to the position of Assistant Planning Manager where his tasks in the Department of Opencast Mine Planning included preparation of presentations for the Executive Board. In 1992, Mr. Hartung joined the Garzweiler opencast mine as Chief Engineer before being promoted to the position of Head of Department for Plant Operation Engineering and Environmental Protection in 1993. Between 1994 and 2004, he was appointed as the Vice President for Opencast Mining Planning and Approval before taking up the position of Executive Vice President of RWE Power AG and Member of the RWE Power AG Executive Board in 2004. In 2010, Mr. Hartung undertook the position as CEO of RWE Technology GmbH. Since 1st January 2013, he is the CEO of both RWE Generation SE and RWE Power AG.

Monday 13 June 2016

09:00 – 17:00	*Foyer & Ballroom D* – Registration, Posters and Exhibition					
09:00 – 09:10	*Ballroom A* – **Opening Ceremony: Bernd Meyer**					
09:10 – 10:10	*Ballroom A & B* – **Plenary Session,** Chair: Hubert Höwener					
09:10 – 09:30	Bernd Meyer, TU Bergakademie Freiberg – Germany					
09:30 – 09:50	Garrelt Duin, State of North Rhine-Westphalia – Germany					
09:50 – 10:10	Matthias Hartung, RWE Power AG – Germany					
10:10 – 11:10	**Group Picture + Coffee Break + Poster Session**					
11:10 – 12:30	*Ballroom A* – **Session 1: Market Overviews & Trends,** Chair: Reinhold Elsen		*Ballroom B* – **Session 2: Reactor Modelling I,** Chair: Fuchen Wang		*Ballroom C* – **Session 3: Low Temperature Coal Conversion,** Chair: Steffen Krzack	
11:10 – 11:30	01-1	A new deal: Lignite as resource for the chemical industry in the era of renewable energies and as bridging technology up to bio-economy (Guido van den Berg, Social Democratic Party – Germany)	02-1	Rapidly accelerated CFD-based optimisation of reactive systems (Philip Rößger, TU Bergakademie Freiberg – Germany)	03-1	Lignite as a feedstock (Carola Tretner, ROMONTA – Germany)
11:30 – 11:50	01-2	Coal gasification in Poland – Perspectives and key driving forces (Aleksander Sobolewski, IChPW – Poland)	02-2	CoALsim – A new tool for mathematical modelling of Lurgi FBDB™ Gasification (Martin Gräbner, Air Liquide F&E GmbH – Germany)	03-2	Research on pressure swing extraction of coal to receive liquid and low-E coal fuel (Wojciech Urbanczyk, Silesian University of Technology – Poland)
11:50 – 12:10	01-3	Gasification based coal to chemicals in China: Economic and environmental challenges (Andrew Minchener, IEA Clean Coal Center – UK)	02-3	Particle-resolved numerical study of char conversion processes considering conditions in the British-Gas-Lurgi (BGL) gasifier (Sebastian Schulze, TU Bergakademie Freiberg – Germany)	03-3	Integrated, non-catalytic process for the production of high value chemicals from low rank coal by oxidative hydrothermal dissolution (OHD) (Francois Botha, Thermaquatica Inc. – USA)
12:10 – 12:30	01-4	Energy and CCS potential in South Africa – A review (Johan van Dyk, African Carbon Energy – South Africa)	02-4	The study on gasification products' composition of different coals (Wenbin Zhang, Changzheng Engineering Co., Ltd. – China)	03-4	Methods for predicting the hydrocarbon yield in the catalytic cracking of lignite (Mathias Seitz, Hochschule Merseburg – Germany)
12:30 – 13:30	**Lunch**					
13:30 – 15:10	*Ballroom A* – **Session 4: Gasifier Developments,** Chair: Martin Gräbner		*Ballroom B* – **Session 5: Mineral Matter I,** Chair: Patrick Stephan		*Ballroom C* – **Session 6: Syngas Treatment I,** Chair: Martin Gall	
13:30 – 13:50	04-1	Status of COORVED-Project: Ash agglomeration in a modified COORVED gasifier (Martin Schurz, TU Bergakademie Freiberg – Germany)	05-1	Thermochemical modelling of coal ash behaviour in a power plant (Klaus Hack, GTT Technologies – Germany)	06-1	RTI warm syngas clean-up technology demonstration (David Denton, RTI International – USA)
13:50 – 14:10	04-2	Entrained flow gasification of ash containing slurries for the production of bio-based syngas in the bioliq™ demo-scale plant (Matthias Müller-Hagedorn, Air Liquide F&E GmbH – Germany)	05-2	New insights into high pressure, entrained-flow gasification of lignite: Reaction kinetics, gasification behaviour, and slag formation and flow (David Harris, CSIRO Energy – Australia)	06-2	Performance evaluation of honeycomb shaped dry desulfurisation sorbent in the syngas expected for advanced oxy-fuel IGCC power generation plant (Makoto Kobayashi, CRIEPI – Japan)
14:10 – 14:30	04-3	Pilot scale studies on CO_2 enhanced gasification in pressurised fluidised bed reactor – Summary results of the Polish National Strategic Research Program (Tomasz Iluk, IChPW – Poland)	05-3	Effect of SiO_2/Al_2O_3 on fusion behaviour of coal ash at high temperature (Jin Bai, Chinese Academy of Sciences – China)	06-3	Catalytic oxidation of H_2S from coal gasification off gas (Jacob Hjerrild Zeuthen, Haldor Topsøe A/S – Denmark)
14:30 – 14:50	04-4	Coupling gasification and metallurgical applications (Robert Pardemann, Outotec GmbH – Germany)	05-4	Analysis of solid phase formation and its impact on slag rheology (Daniel Schwitalla, TU Bergakademie Freiberg – Germany)	06-4	Improving response rates of acid gas absorber columns (Christian Heinze, TU Darmstadt – Germany)
14:50 – 15:10	04-5	Construction and commissioning of a HTW™-Pilot Plant (Philipp Herdel, TU Darmstadt – Germany)	05-5	Generation and growth of crystals and enrichment of elements during isothermal process in molten slag (Zhongjie Shen, East China University of Science and Technology – China)	06-5	Synthesis gas cooling downstream pressurised gasification (Ralph Ernst, Steinmüller Engineering GmbH – Germany)
15:10 – 15:40	**Coffee Break + Poster Session**					

15:40 – 17:00	*Ballroom A* – **Session 7: Kinetic I,** Chair: Jason Laumb		*Ballroom B* – **Session 8: Fuel Analysis & Transformation,** Chair: Alexander Sobolewski		*Ballroom C* – **Session 9: Renewable Gasification & Products,** Chair: Sankar Bhattacharya	
15:40 – 16:00	07-1	Coal char structure characterisation: Assessing of various analytical techniques (Evgeniia Komarova, TU Bergakademie Freiberg – Germany)	08-1	Novel method for the determination of unknown biomass fuel properties based on results of an online monitoring in a 300 kW CFB pilot plant (Daniel Bernhardt, TU Dresden – Germany)	09-1	Experimental activities on Sotacarbo 5 MWth gasification demonstration plant (Gabriele Cali, Italian Agency for New Technologies – Italy)
16:00 – 16:20	07-2	Mechanism of K_2CO_3-catalysed pyrolysis and steam gasification of coal char (Huaili Zhu, East China University of Science and Technology – China)	08-2	Coal nitrogen transformation and the release of nitrogen species during pyrolysis and combustion in a bench-scale bubbling fluidised bed reactor (Hein Neomagus, North West University – South Africa)	09-2	Experience with operation of multi-stage (two-stage) fixed-bed gasifiers in the Czech and Slovak Republic (Siarhei Skoblia, University of Chemistry and Technology Prague – Czech Republic)
16:20 – 16:40	07-3	A method of retrieving char oxidation kinetic data from recorded trajectories of reacting particles (Adam Klimanek, Silesian University of Technology – Poland)	08-3	Increase efficiency and lower emissions using TOM-Technology (Andreas Diegeler, ISC Fraunhofer – Germany)	09-3	Clean jet fuel made by a newly developed Fischer-Tropsch technology: innovative, effective and environmentally friendly (Rüdiger Schwarz, ALF Advanced Liquid Fuel – Germany)
16:40 – 17:00	07-4	The char structure evolution and alkali and alkaline earth metallic species release behaviour during H_2O/CO_2 gasification (Shenghua Zhu, Taiyuan University of Technology – China)	08-4	Determination of char molecular size at early stage of rapid pyrolysis (Tongmin Cui, East China University of Science and Technology – China)	09-4	Steam gasification with in-situ CO_2 capture for the production of synthetic fuels (Daniel Schweitzer, University of Stuttgart – Germany)
18:30 – 22:30	**Conference Dinner ***					

The conference dinner will take place on an evening boat cruise along the Rhine River. For participants who would like to walk with the organisation committee to the boat jetty, please meet at the hotel lobby at **18:00.*

Tuesday 14 June 2016

08:30 – 16:50	*Foyer & Ballroom D* – Registration, Posters and Exhibition					
08:30 – 10:10	*Ballroom A* – **Session 10: Commercial Applications,** Chair: Chris Higman		*Ballroom B* – **Session 11: Concept Evaluations,** Chair: Robert Pardemann		*Ballroom C* – **Session 12: Carbon Capture & Gas Cleaning,** Chair: Joanna Bigda	
08:30 – 08:50	10-1	U.S. DOE's advanced gasification technologies – A case study: TRIG™ technology from Wilsonville to Kemper (Nelson F. Rekos, U.S. DOE-National Energy Technology Laboratory – USA)	11-1	Coal-to-Liquids: An attractive opportunity for improved power plant capacity utilisation? (Matthias Gootz, TU Bergakademie Freiberg – Germany)	12-1	CO_2 capture and amine solvent regeneration in Sotacarbo pilot plant (Claudia Bassano, Italian Agency for New Technologies – Italy)
08:50 – 09:10	10-2	Lurgi FBDB™ Mk+™ gasification technology (Ganesh Arumugan, Air Liquide Global E&C Solutions GmbH – Germany)	11-2	Application update of OMB CWS gasification process (Guangsuo Yu, East China University of Science and Technology – China)	12-2	New technologies for gas cleaning and CO_2 capture – Summary results of the Polish National Strategic Research Program (Grzegorz Tomaszewicz, IChPW – Poland)
09:10 – 09:30	10-3	R-Gas™: High ash, high AFT test results and commercialisation status (Don Stevenson, Gas Technology Institute – USA)	11-3	Gasifier consideration for advanced power cycles (Joshua Stanislowski, University of North Dakota – USA)	12-3	Techno-economic evaluation of a low-temperature CO_2 capture unit for IGCC plants (David Berstad, SINTEF Energy Research – Norway)
09:30 – 09:50	10-4	Development of HTL-gasification technology (Congbing Jiang, Changzheng Engineering Co., Ltd. – China)	11-4	Techno-economic optimisation potential of high temperature syngas treatment in gasification processes (Robert Mai, Karlsruhe Institute of Technology – Germany)	12-4	Spray scrubbing for post-combustion CO_2 capture – Operating results of the CASPAR pilot-plant (Simone Zimmermann, University of Stuttgart – Germany)
09:50 – 10:10	10-5	Implementation of HTW gasification at pilot scale (Michael Eckbauer, thyssenkrupp Industrial Solutions AG – Germany)	11-5	CO_2 enhanced gasification in circulating fluidised bed reactor. Technological configuration and feasibility study of the demonstration plant (Tomasz Chmielniak, IChPW – Poland)	12-5	CO_2 methanation on Fe-based catalysts (Johann Kirchner, TU Bergakademie Freiberg – Germany)
10:10 – 10:40	**Coffee Break + Poster Session**					

10:40 – 12:00	*Ballroom A* – **Session 13: Coking & Tar Upgrading,** Chair: Hein Neomagus		*Ballroom B* – **Session 14: Feed Systems,** Chair: Jörg Kleeberg		*Ballroom C* – **Session 15: Mineral Matter II,** Chair: Stefan Guhl	
10:40 – 11:00	13-1	Influence of briquetting and coking parameters on the lump coke production using non-baking coals (Franz Fehse, TU Bergakademie Freiberg – Germany)	14-1	Development of an innovative feed pump for dry coal gasification systems (Daniel Nägel, FELUWA Pumpen GmbH – Germany)	15-1	Thermophysical and chemical properties of BioLiq slags (Sören Seebold, FZ Jülich – Germany)
11:00 – 11:20	13-2	Clean, high quality diesel and gasoline production with Topsøe coal tar upgrading process (Angélica Hidalgo-Vivas, Haldor Topsøe A/S – Denmark)	14-2	Torrefied biomass pellets key to establish dense-phase flow feed to entrained flow gasifiers (Michiel Carbo, Energy Research Centre of the Netherlands ECN – The Netherlands)	15-2	Release and transformation behaviour of K and Cl during pyrolysis of torrefied straw (Handing Chen, East China University of Science and Technology – China)
11:20 – 11:40	13-3	Hydrogen production from steam reforming of liquid product of coal pyrolysis (Jumoke Mojisola Oladejo, The University of Nottingham Ningbo – China)	14-3	Investigations on fuel rheology and spray quality for high pressure entrained flow gasification of biomass based fuels (Tobias Jakobs, Karlsruhe Institute of Technology – Germany)	15-3	A characterisation of the ash formed from gasification of biomass waste (Alexander Ilyushechkin, CSIRO Energy – Australia)
11:40 – 12:00	13-4	Steam catalytic cracking of high temperature coal tar over iron oxide and iron oxide doped with zirconia and alumina (Haoquan Hu, Dalian University of Technology – China)	14-4	Multiple effects of the second fluid on the viscosity of coal water slurry (Jie Zhang, East China University of Science and Technology – China)	15-4	Characteristics of unnormal slag in Shell coal gasification by TG-DTG and SEM (Hanxu Li, Anhui University of Science & Technology – China)
12:00 – 13:00	**Lunch**					
13:00 – 14:40	*Ballroom A* – **Session 16: Power Generation,** Chair: Manfred Wirsum		*Ballroom B* – **Session 17: Partial Oxidation & Reforming,** Chair: Peter Seifert		*Ballroom C* – **Session 18: Co-Utilisation of Coal & Biomass,** Chair: Poul Erik Hojlund Nielsen	
13:00 – 13:20	16-1	The crucial importance of improved gas turbines in IGCC power stations (Maarten van der Burgt – The Netherlands)	17-1	A new understanding of the combustion process in partial oxidation reformer (Xinyu Li, East China University of Science and Technology – China)	18-1	Status quo and outlook of co-firing torrefied material (Michiel Carbo, Energy Research Centre of the Netherlands ECN – The Netherlands / Kay Schaubach, DBFZ – Germany)
13:20 – 13:40	16-2	Supercritical CO_2 cycles for power production (Jason Laumb, University of North Dakota – USA)	17-2	Numerical study of different burner configurations for high pressure non-catalytic reforming based on the Freiberg semi-industrial test facility HP POX (Thomas Förster, TU Bergakademie Freiberg – Germany)	18-2	Biomass torrefaction integration in coal IGCC: Technical possibilities, concept advantages, synergies and development requirements (Javier Gil, CENER – Spain)
13:40 – 14:00	16-3	Degradation behaviours of SOFC due to the chemical interaction between trace gaseous impurities in coal syngas and Ni-YSZ anode (Koji Kuramoto, National Institute of Advanced Industrial Science and Technology AIST – Japan)	17-3	New routes for syngas production – DryReforming at elevated pressure (Hanno Tautz, Linde AG – Germany)	18-3	Development of a one barrel per day coal to liquids pilot research facility and the lessons learned (Rodney Andrews, University of Kentucky – USA)
14:00 – 14:20	16-4	Coupling of power generation with syngas-based chemical synthesis (Clemens Forman, TU Bergakademie Freiberg – Germany)	17-4	Preparation of carbon-Ni/MgO-Al_2O_3 composite catalysts for CO_2 reforming of methane (Haoquan Hu, Dalian University of Technology – China)	18-4	Conversion of coal and biomass to liquid hydrocarbons using gasification and a hybrid Fischer-Tropsch catalyst (Joseph Hartvigsen, Ceramatec – USA)
14:20 – 14:40	16-5	Modular systems for clean coal (Bhima Sastri, United States Department of Energy – USA)	17-5	Modelling and experimental results of heavy oil injection into a high pressure entrained flow gasifier (André Bader, TU Bergakademie Freiberg – Germany)	18-5	A study on Yunnan coal and oat straw's synergy during co-firing (Jumoke Mojisola Oladejo, University of Nottingham Ningbo – China)
14:40 – 15:10	**Coffee Break + Poster Session**					

15:10 – 16:50	*Ballroom A* – **Session 19: Underground Coal Gasification,** Chair: Johan van Dyk		*Ballroom B* – **Session 20: Kinetic II,** Chair: Guangsuo Yu		*Ballroom C* – **Session 21: Syngas Treatment II,** Chair: Makoto Kobayashi	
15:10 – 15:30	19-1	Large scale experimental simulations of underground coal gasification (UCG) process with selected European lignites (Krzysztof Kapusta, Central Mining Institute CIG – Poland)	20-1	Comparison of entrained flow gasification behaviour of Victorian brown coal and biomass (Sankar Bhattacharya, Monash University – Australia)	21-1	Topsøe activities downstream gasifiers (Poul Erik Hojlund Nielsen, Haldor Topsøe A/S – Denmark)
15:30 – 15:50	19-2	Overburden collapse as defining factor in performance of large underground coal gasification reactors (Michael Blinderman, Ergo Exergy Technologies Inc. – Canada)	20-2	Experimental investigation of single-particle gasification (Felix Küster, TU Bergakademie Freiberg – Germany)	21-2	Design, simulation and practical experience of the largest syngas cooler in operation for coal gasification (Jörg Weidenfeller, ARVOS GmbH – Germany)
15:50 – 16:10	19-3	Initial investigations for the in-situ gasification of lignite seams – A case study of a Romanian deposit (Torsten Gorka, DMT GmbH & Co. KG – Germany)	20-3	In-situ spectroscopy for the gas analysis during coal gasification (Marcus Junghanns, Friedrich-Schiller-Universität Jena – Germany)	21-3	A novel raw gas cooling system based on a CO conversion quench reactor (Kristin Boblenz, TU Bergakademie Freiberg – Germany)
16:10 – 16:30	19-4	Coal seam surrounding strata as a key factor in UCG site selection methods (Krzysztof Lis, KGHM Cuprum Ltd. Research and Development Centre – Poland)	20-4	Specialised sorption measuring devices for high temperature conditions (Tobias Fieback, TU Bergakademie Freiberg – Germany)	21-4	High temperature membrane catalyst systems for a WGS membrane reactor (Michael Müller, FZ Jülich – Germany)
16:30 – 16:50	19-5	Experimental results of underground coal gasification of Turkish lignite in an ex-situ reactor (Mesut Gür, Istanbul Technical University – Turkey)	20-5	Experimental investigation of entrained flow gasification of a bituminous coal and a lignite (Andreas Geissler, TU Munich – Germany)	21-5	Testing of advanced vanadium membranes for hydrogen and CO_2 separation on coal-derived syngas (Joshua Stanislowski, University of North Dakota – USA)
18:00 – 20:00	**Cologne historic walking tour ***					

Please meet at the foyer at **17:45. Participants will be divided into separate groups for the walking tour.*

Wednesday 15 June 2016

08:30 – 12:00	*Foyer* – Registration			
08:30 – 10:10	*Ballroom A* – **Session 22: Alternative Utilisation & Boundary Conditions,** Chair: Andrew Minchener		*Ballroom B* – **Session 23: Reactor Modelling II,** Chair: Andreas Richter	
08:30 – 08:50	22-1	Advanced CtL/CtG technologies for lignite (Jens Hannes, RWE Power AG – Germany)	23-1	Insight into the injector near-field of a glycol-fueled entrained-flow gasifier by numerical simulation with detailed chemistry (Georg Eckel, German Aerospace Center DLR – Germany)
08:50 – 09:10	22-2	Integrated assessment of feasibility of coal-to-chemical projects (Nikolai Kinaev, Strategic Energy Consulting Pty Ltd – Australia)	23-2	Numerical modelling of CO_2 enhanced coal gasification in a pressurised circulating fluidised bed reactor (Joanna Bigda, IChPW – Poland)
09:10 – 09:30	22-3	Evaluation of resource alternatives as carbon feedstock for the production of platform chemicals: Eco-efficiency considerations and challenges associated with diverse boundary conditions (Roh Pin Lee, TU Bergakademie Freiberg – Germany)	23-3	Computational fluid dynamics modelling of soot formation from asphaltene gasification (André Bader, TU Bergakademie Freiberg – Germany / Vinoj Kurian, University of Alberta – Canada)
09:30 – 09:50	22-4	Public perception of a coal phase-out in Germany (Diana Schumann, FZ Jülich GmbH – Germany)	23-4	Influence of slag properties and operating conditions on slag flow in a coal gasifier (Insoo Ye, Sungkyunkwan University – Korea)
09:50 – 10:10			23-5	Simulation of roasting process in fluidised bed using CFD-DEM (Ilya Beloglazov, University of Mines – Russia)
10:10 – 10:30	**Coffee Break**			
10:30 – 11:30	*Ballroom A* – **Session 24: Integration of Coal & Renewable Power,** Chair: David Harris		*Ballroom B* – **Session 25: Plasma Gasification,** Chair: Felix Baitalow	
10:30 – 10:50	24-1	Combination of coal-to-liquid plants with renewable hydrogen - electricity grid stabilisation and efficient liquid storage (Tim Schulzke, Fraunhofer UMSICHT – Germany)	25-1	New approaches to plasma gasification systems (Sergey Korobtsev, Kurchatov Institute – Russia)
10:50 – 11:10	24-2	Syngas-based Annex concepts in comparison with CO_2-based Power-to-X concepts within pulverised coal combustion power plants (Christian Wolfersdorf, TU Bergakademie Freiberg – Germany)	25-2	Multi-gas AC plasma torches for gasification of organic substances (Alexander Surov, Institute for Electrophysics and Electric Power of Russian Academy of Sciences – Russia)
11:10 – 11:30	24-3	Prospects of fossil fuels in the German energy system under selected EU ETS allowance allocation schemes (Thomas Haasz, University of Stuttgart – Germany)	25-3	Plasma conversion of carbonaceous waste (Alexandr Ustimenko, Kazakhstan National University – Kazakhstan)
11:30 – 12:00	*Ballroom A* – **Closing Ceremony: Bernd Meyer**			
12:00 – 13:00	**Lunch**			

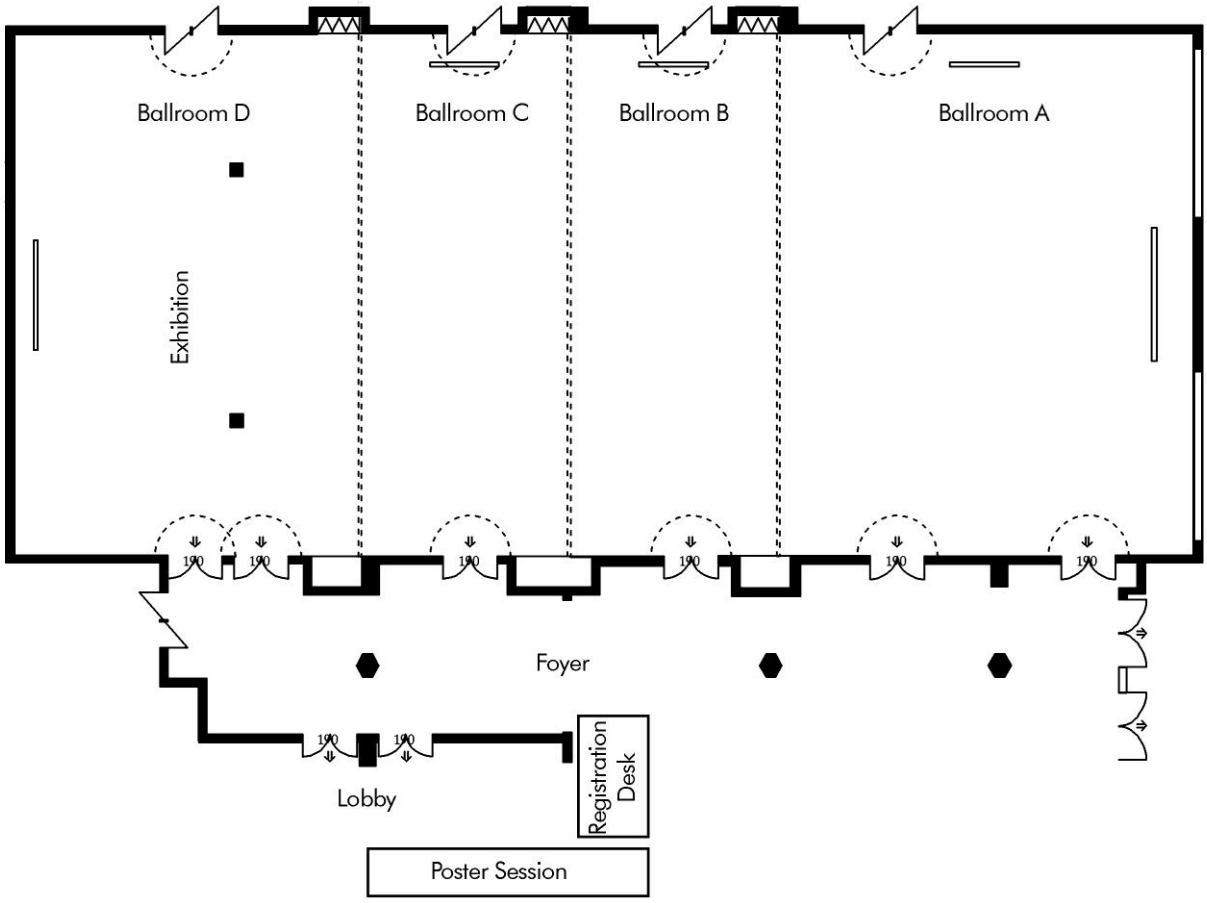
Poster Session Programme	
Poster 01	Catalytic upgrading of coal pyrolysis tar over carbon-based catalysts in CO_2 reforming of methane atmosphere (Haoquan Hu, Dalian University of Technology – China)
Poster 02	Plasma coal conversion including mineral mass utilization (Alexandr Ustimenko, Kazakhstan National University & NTO Plasmotekhnika Ltd. – Kazakhstan)
Poster 03	Experimental study on gasification characteristics of typical coal (I) (Li Zhang, Changzheng Engineering Co., Ltd. – China)
Poster 04	Experiment and quantitative analysis of the second stage operation in air-blown gasification system (Pavel Osipov, Ural Federal University – Russia)
Poster 05	Thermogravimetric studies on reaction kinetics of sodium chloride capture by kaolin in syngas atmosphere (Florian Kerscher, TU Munich – Germany)
Poster 06	Perspective pathways of APG utilisation (Joanna Bigda, IChPW – Poland)
Poster 07	Mechanism of calcium and magnesium coupling effect on ash behaviour under reducing atmosphere (Chengli Wu, Anhui University of Science and Technology – China)
Poster 08	Effects of CO_2 on structure and gasification reactivity of coal char (Shenghua Zhu, Taiyuan University of Technology – China)
Poster 09	Influence of gasification regent on gasification kinetics of coke (Toshimasa Takanohashi, AIST – Japan)
Poster 10	Characterisation of chars from pilot-scale circulating fluidised bed reactor (Grzegorz Tomaszewicz, IChPW – Poland)
Poster 11	Effect of Si/Al ratio on mineral behaviour of factitious ash under reducing atmosphere (Yongxin Tang, Anhui University of Science and Technology – China)
Poster 12	Mercury thermospecies in coal: Enhancement of mercury removal technologies (Nikolay Mashyanov, St. Petersburg State University – Russia)
Poster 13	Corrosion testing of steel for production and injection well applications in a UCG process (Johan van Dyk, African Carbon Energy – South Africa)
Poster 14	Experimental investigations on char gasification kinetics (Victor Gonzalez, TU Bergakademie Freiberg – Germany)
Poster 15	The engineering calculation on flow field and temperature field in coal gasification (Wenbin Zhang, Changzheng Engineering Co., Ltd. – China)
Poster 16	CFD simulations and experimental measurements of aerated and non-aerated coal water slurry pressure drop in horizontal pipe (Joanna Bigda, IChPW – Poland)
Poster 17	Analysis of pyrolysis products of Shenhua coal and its macerals with pyrolysis-vacuum ultraviolet photoionisation mass spectrometry (Haoquan Hu, Dalian University of Technology – China)
Poster 18	The removal and recovery of Hg^0 from coal-derived flue gas over novel MoS_2 nanosheets containing materials (Jumoke Mojisola Oladejo, The University of Nottingham Ningbo China – China)
Poster 19	Construction of the macromolecular structure models of Shengli lignite based on TG-GC/MS and FTIR spectra (Li Feng, China University of Mining & Technology – China)
Poster 20	Interaction of vitrinite and inertinite of Bulianta coal in pyrolysis (Haizhou Chang, University of Shanghai for Science and Technology – China)
Poster 21	Fe-doped carbon for hydrogen production by catalytic methane decomposition (Haoquan Hu, Dalian University of Technology – China)
Poster 22	Increasing the efficiency of UCG by utilisation of waste heat (Alexey Belov, Far Eastern Federal University – Russia)
Poster 23	Ash composition and ash particle structure of various fuels achieved under different ashing methods and related temperatures (Markus Reinmöller, TU Bergakademie Freiberg – Germany)
Poster 24	The work horse CCG®: Simple, reliable and cost-efficient technology for syngas production from coal (Henry Hempel, CHOREN Industrietechnik GmbH – Germany)
Poster 25	Flue gas ultra-low emission remodelling project technical routes applied in China Datang Corporation (Guanjun Zhang, China Datang Corporation Science and Technology Research Institute – China)
Poster 26	Investigation on thermal stress induced coal particle fragmentation (Shan Zhong, TU Bergakademie Freiberg – Germany)
Poster 27	Corrosion of a newly developed alumina-based refractory by acidic and basic slag (Mathias Klinger, TU Bergakademie Freiberg – Germany)
Poster 28	A coke and Synfuels polygeneration process based on coal gasification (Xu Hao, Synfuels China Technology Co., Ltd. – China)
Poster 29	Research on pore structure and adsorption properties of lignite dehydrated by different forms of energy (Guoli Zhou, Zhengzhou University – China)
Poster 30	Kinetic study on pyrolysis of briquette from a typical Chinese brown coal (Lingmei Zhou, China University of Mining & Technology Beijing – China)

Technical Tours	
Wednesday 15 June 2016	
14:00 – 18:00	**Technical Tour – Power 1** *Neurath Power Plant*
14:00 – 18:00	**Technical Tour – Chemical 1** *INEOS*
Thursday 16 June 2016	
09:00 – 18:00	**Technical Tour – Power 2** *Garzweiler Opencast Mine* *Niederaussem Power Plant and Coal Innovation Centre*
09:00 – 18:00	**Technical Tour – Chemical 2** *CHEMPARK Leverkusen* *LyondellBasell*

**The technical tours will be departing from the Pullman Hotel Cologne. Arrival time back in the Pullman Hotel in Cologne from the technical tours will be dependent on traffic conditions. Please note that traffic conditions in and around Cologne can be difficult and the potential for traffic jams is high especially in the evening when we depart from the technical tours back to Cologne.*

***Technical tours on Wednesday 15 June 2016 will include refreshments. Technical tours on Thursday 16 June 2016 will include lunch and refreshments.*

Floor Plan (Pullman Cologne Hotel)



Please note that the programme is prepared in British English. Presentation titles in American English are therefore edited to ensure consistency in the language used in the conference abstract book.

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TU Bergakademie Freiberg, Institute of Energy Process Engineering and Chemical Engineering
Fuchsmuehlenweg 9, 09599 Freiberg, Germany
Phone: +49 3731 39- 4511, Fax: +49 3731 39-4555
Email: gasification@iec.tu-freiberg.de, Web: www.gasification-freiberg.com