6th International Freiberg Conference on IGCC & XtL Technologies

Coal Conversion and Syngas

19–22 May 2014
Dresden/Radebeul, Germany

Programme

Sunday 18 May – Friday 23 May

Radisson Blu Park Hotel & Conference Centre, Dresden/Radebeul

Sunday, 18 May 2014	
18:00 – 20:00	Registration
18:00 – 21:00	**Restaurant Lößnitz, Radisson Blu Park Hotel, Dresden/Radebeul - Welcome Evening**

Monday, 19 May 2014		
09:00 – 09:20	*Radebeul-Dresden* - **Opening Ceremony: Bernd Meyer**	
09:20 – 10:50	**Plenary Session**	
		David Harris – CSIRO Energy Technology [Australia] Dr. David Harris is the Deputy Chief of CSIRO Energy Technology and has extensive research experience in fundamental and applied aspects of coal combustion and gasification systems. He has published over 150 research reports and papers on a wide range of coal and energy technologies with particular emphasis on coal and coke reactivity, high temperature & high-pressure reactions, coal combustion and gasification and their applications in metallurgical and low emissions power generation technologies. Dr. Harris established the high-pressure coal gasification research facilities at the Queensland Centre for Advanced Technologies which provides unique capabilities for advanced gasification, syngas processing and gas separation research and development. David's group has developed collaborative links with international research and technology development groups in Japan, China, Korea, Europe, USA and South Africa.
		Yong-Wang Li – Synfuels China Technology Co., Ltd. [China] Dr. Yong-Wang Li holds the positions of Deputy Director in the State Key Laboratory of Coal Conversion and Director in the Laboratory of Synfuels China, Institute of Coal Chemistry, CAS. He also holds the position of General Manager in Synfuels China Company Limited. Dr. Li is engaged in industrial chemistry and engineering, kinetics and reactor modelling and process development, catalytic mechanism over transition metal materials by using characterisation and quantum calculations, Fischer-Tropsch synthesis technology, etc. He has published more than 200 scientific papers, obtained more than 20 authorised patents, got one software copyright for Fischer-Tropsch synthesis process analysis. He has been honored many awards such as National Invention Awards, Outstanding Science and Technology Achievement Prize, etc.
		Johan Brand – African Carbon Energy [South Africa] Mr. Johan Brand has been appointed as CEO of Africary and will drive the development of the Africary commercial Underground Coal Gasification project on its Theunissen coal field. He has extensive coal mining and coal gasification experience and is an internationally recognised leader in the field of UCG. He is the Technical Director of Wildhorse Energy (WHE), listed on both the ASX and AIM stock exchanges. He is also a director of the global UCG Association in London. He was previously an employee of Sasol for 13 years and held the position of UCG Business Manager for Sasol (2006 and 2009), responsible for the establishment and management of UCG as a Sasol business unit. Mr. Brand has worked extensively throughout South Africa, Europe and Africa in the business, mining, process and energy industries for both large multinationals and start-up companies.

Monday, 19 May 2014

08:30 – 16:00	Registration						
09:00 – 16:00	*Meißen* - Posters and Exhibition						
09:00 – 09:20	*Radebeul-Dresden* - **Opening Ceremony: Bernd Meyer**						
09:20 – 10:50	*Radebeul-Dresden* - **Plenary Session,** Chair: Hubert Höwener						
09:20 – 09:50	Gasification and Syngas R & D: Underpinning clean and efficient energy products from fossil and renewable fuels (David Harris, CSIRO Energy Technology – Australia)						
09:50 – 10:20	Fischer–Tropsch synthesis process development: from laboratory to commercial scale (Yong-Wang Li, Synfuels China Technology Co., Ltd. – China)						
10:20 – 10:50	Underground coal gasification (UCG) plus CCGT, Unlocking the potential of deep and stranded coal deposits within South-Africa (Johan Brand, African Carbon Energy – South Africa)						
10:50 – 11:20	**Coffee Break**						
11:20 – 12:40	*Special parallel session:* Technology assessment and social acceptance of coal and new carbon technologies	*Radebeul-Dresden* - **Session 1: Entrained-flow gasification,** Chair: Martin Gräbner		*Lößnitz* - **Session 2: Biomass gasification,** Chair: Hansjobst Hirschfelder		*T 1/3/5* - **Session 3: Pyrolysis,** Chair: Steffen Krzack	
11:20 – 11:40		01-1	High pressure, entrained flow gasification studies of Rhenish lignite (Daniel Roberts, CSIRO Energy Technology – Australia)	02-1	Balancing fluctuating power supply by gasification of biomass (Alexander Tremel, Siemens Corporate Technology – Germany)	03-1	Kinetic model of hydropyrolysis based on the CPD model (Qingliang Guan, Tsinghua University – China)
11:40 – 12:00		01-2	Experimental and numerical study of slag droplet flow behaviour (Zhiwei Yang, Tsinghua University – China)	02-2	Characterisation of several kinds of coal and biomass for pyrolysis and gasification (Caterina Frau, Sotacarbo S.p.A. – Italy)	03-2	Determination of pyrolysis behaviour of brown coal in a pressurised drop tube reactor (Stephan Siegl, TU Bergakademie Freiberg – Germany)
12:00 – 12:20		01-3	Evaluation of CO_2-enriched gasification characteristics using 3T/D coal research gasifier – influence of CO_2 supply on gasification reaction in reductor (Hiroyuki Hamada, Central Research Institute of Electric Power Industry – Japan)	02-3	Design and commercial application of two-stage fixed bed gasifier in Czech Republic (Siarhei Skoblia, Institute of Chemical Technology – Czech Republic)	03-3	Effect of heating rate and temperature on pyrolysis of asphaltenes: a study of char characteristics (Nirlipt Mahapatra, University of Alberta – Canada)
12:20 – 12:40		01-4	ThyssenKrupp Industrial Solutions gasification technologies PRENFLO® and HTW™ for IGCC and B-XTL technologies (Norbert Ullrich, ThyssenKrupp Industrial Solutions – Germany)	02-4	Techno-economic assessment and global sensitivity analysis for biomass-based CO_2 capture storage and utilisation (CCSU) technologies (Amit Bhave, cmcl innovations – United Kingdom)	03-4	Modelling the aromaticity of lignite pyrolysis chars with petrographic parameters in relation to the process temperature (Henny Hamann, TU Bergakademie Freiberg – Germany)
12:40 – 13:40	**Lunch**						
13:40 – 15:00		*Radebeul-Dresden* - **Session 4: Entrained-flow gasification,** Chair: David Harris		*Lößnitz* - **Session 5: Syntheses and CtL concepts,** Chair: Martin Gall		*T 1/3/5* - **Session 6: Pilot scale process development,** Chair: Yong-Wang Li	
13:40 – 14:00		04-1	Demonstration of the Shell-Wison bottom quench coal gasification technology (Jiang Xu, Shell (China) Projects & Technology Limited – China)	05-1	Gasification, warm-gas cleanup, and liquid fuel production with coal and biomass blends (Jason D. Laumb, University of North Dakota – USA)	06-1	Start-up of internal circulation gasifier COORVED (Martin Schurz, TU Bergakademie Freiberg – Germany)
14:00 – 14:20		04-2	Experimental study on particle classification in an opposed multi-burner gasifier (Yan Gong, East China University of Science and Technology – China)	05-2	Production of new clean - green fuels from gasification processes (Martin Skov Skjøth-Rasmussen, Haldor Topsøe A/S – Denmark)	06-2	Indicators to assess performance of a laboratory scale fixed bed pipe reactor (Frederik Conradie, North-West University – South Africa)
14:20 – 14:40		04-3	Numerical simulation of GSP gasifier with various swirler angles (Dapeng Bi, Tsinghua University – China)	05-3	CO_2 load in the process of hydrogen production by coal gasification and pyrolysis (Tomasz Chmielniak, Institute for Chemical Processing of Coal – Poland)	06-3	Coal gasification with CO_2 as gasification agent on pilot scale CFB reactor (Grzegorz Tomaszewicz, Institute for Chemical Processing of Coal – Poland)
14:40 – 15:00		04-4	Development of new burner lance for start-up of coal gasification process (Ahmad Al-Halbouni, Brinkmann Industrielle Feuerungssysteme GmbH – Germany)	05-4	Modelling and economic evaluation of integration of SNG plants with Carbon Capture and Storage Technologies (Claudia Bassano, ENEA, Italian Agency for New Technologies, Energy and Sustainable Economic Development – Italy)	06-4	Characterisation of an entrained flow reactor for pyrolysis/gasification of coal and biomass (Sarma V. Pisupati, The Pennsylvania State University – USA)
15:00 – 15:30	**Coffee Break**						

15:30 – 16:50	*Radebeul-Dresden* - **Session 7: IGCC + Polygeneration,** Chair: Frank Hannemann		*Lößnitz* - **Session 8: Gas purification,** Chair: Yvonne C. van Delft		*T 1/3/5* - **Session 9: Coal and biomass conversion technologies,** Chair: Amit Bhave	
15:30 – 15:50	07-1	U.S. DOE gasification-based CCS demonstration projects (Gary Stiegel, U.S. Department of Energy – USA)	08-1	Research on dry HTHP syngas cleaning in the environment of the bioliq process (Hans Leibold, Karlsruhe Institute of Technology – Germany)	09-1	Development of ZEMAG fixed bed slagging gasification technology (Huanqing Lu, ZEMAG Clean Energy Technology GmbH – Germany)
15:50 – 16:10	07-2	Concepts for XTL routes based on a technically proven gasoline synthesis process (René Stahlschmidt, TU Bergakademie Freiberg – Germany)	08-2	Vanadium-based membrane reactors for large-scale CO_2 capture from gasification (Daniel Roberts, CSIRO Energy Technology – Australia)	09-2	New results of the SECTOR project: production of solid sustainable energy carriers from biomass by means of torrefaction (Michiel Carbo, ECN – The Netherlands)
16:10 – 16:30	07-3	Synthesis gas production from catalytic coal gasification suitable for power generation/liquid fuel production (Atul Sharma, National Institute of Advanced Industrial Science & Technology – Japan)	08-3	Molten salt reactors in gasification and gas purification (Ville Nikkanen, Fraunhofer ICT, Institute for Chemical Technology – Germany)	09-3	Syngas production by plasma gasification of coal (Alexandr Ustimenko, Research Institute of Experimental and Theoretical Physics – Kazakhstan)
16:30 – 16:50	07-4	Improving the thermal efficiency of hybrid IGCC (Pavel Osipov, Ural Federal University – Russia)			09-4	Enhanced production of biogenic coalbed methane from a subbituminous coal treated with hydrogen peroxide (Zaixing Huang, University of Wyoming – USA)
18:00 – 22:00	**Schloss Wackerbarth - Conference Dinner**					

	Monday, 19 May 2014
11:20 – 15:00	**Special parallel session:** *T 2/4/6* – **Technology assessment and social acceptance of coal and new carbon technologies,** Chair: Michael Nippa
11:20 – 11:40	Public perception of coal and the myths of nature (Diana Schumann, Forschungszentrum Jülich GmbH – Germany)
11:40 – 12:00	What a waste! Understanding public perceptions of Carbon Dioxide Utilisation (CDU) technologies (Christopher R. Jones, University of Sheffield – United Kingdom)
12:00 – 12:20	Impact of knowledge on societal perception and acceptance of coal: Insights from a representative survey in Germany (Roh Pin Lee, TU Bergakademie Freiberg – Germany)
12:20 – 12:40	Social acceptance of CCS in comparative perspective: evaluation and preferences of electricity portfolios and technologies (Dirk Scheer, Dialogik – Germany)
12:40 – 13:40	**Lunch**
13:40 – 14:00	Public communication and collaboration for carbon capture, utilisation and storage technology: acceptance, education, and outreach (Douglas C. Brauer, Richland Community College – USA)
14:00 – 14:20	Public perspectives on energy system change (Christina Demski, Cardiff University – United Kingdom)
14:20– 14:40	Coal and the European Emissions Trading System (Joost L. M. Kanen, Gryphon Carbon Consultancy B.V. – The Netherlands)
14:40 – 15:00	How to assess resource and energy efficiency technologies? – Theoretical, methodological and practical insights from a joint research project (Kirstin Kleeberg, TU Bergakademie Freiberg – Germany)

Tuesday, 20 May 2014

08:00 – 16:00	Registration					
08:30 – 16:00	*Meißen* - Posters and Exhibition					
08:30 – 10:10	*Radebeul-Dresden* - **Session 10: Gasification: policies and framework conditions,** Chair: David Harris		*Lößnitz* - **Session 11: Modelling and validation,** Chair: Peter Kutne		*T 1/3/5* - **Session 12: Gasification kinetics,** Chair: Frans Waanders	
08:30 – 08:50	10-1	Energy Technology Perspectives 2014 (Keith Burnard, International Energy Agency – France)	11-1	A test case for CFD modelling of high pressure reforming of natural gas based on measurement data of the large-scale Freiberg test plant HP-POX (Peter Seifert, TU Bergakademie Freiberg – Germany)	12-1	The effect of particle size on CO_2 reactivity (Hennie Coetzee, North-West University – South Africa)
08:50 – 09:10	10-2	The International Energy Agency's (IEA) Working Party on Fossil Fuels (WPFF) and its activities in regards to future fuels (Hubert Höwener, Forschungszentrum Jülich GmbH – Germany)	11-2	A novel toolbox for the simulation of coal-particle conversion in entrained-flow gasifiers (Andreas Richter, TU Bergakademie Freiberg – Germany)	12-2	Experimental investigation of the solid fuel gasification in entrained flow reactors (Markus Steibel, TU München – Germany)
09:10 – 09:30	10-3	The current research and scientific potential of the Central Mining Institute (GIG) in the field of underground coal gasification (UCG) (Krzysztof Kapusta, Central Mining Institute (GIG) – Poland)	11-3	Computational modelling of entrained flow gasification kinetics with focus on the structural evolution of char particles (Stefan Halama, TU München – Germany)	12-3	Gasification study on co-pyrolysis char of German brown coal and wheat straw (Lingmei Zhou, TU Bergakademie Freiberg – Germany)
09:30 – 09:50	10-4	China`s coal gasification development and deployment programme (Geoffrey Morrisson, IEA Clean Coal Centre – United Kingdom)	11-4	Particle disintegration characterisation in gasification environments (Sascha Russig, TU Bergakademie Freiberg – Germany)	12-4	Downdraft gasification of biomass in thermal plasma (Vadim A. Kuznetsov, Institute for Electrophysics and Electric Power RAS – Russia)
09:50 – 10:10			11-5	Insights into modelling of char- CO_2 reaction kinetics and pore surface evolution under elevated pressure conditions (Martyna Tomaszewicz, Institute for Chemical Processing of Coal – Poland)	12-5	A new kinetic analysis of coal gasification: influence of surface area and pore structure on reactivity (Rico Silbermann, University of Calgary – Canada)
10:10 – 10:40	**Coffee Break**					
10:40 – 12:20	*Radebeul-Dresden* - **Session 13: Modelling and validation,** Chair: Christian Hasse		*Lößnitz* - **Session 14: Pyrolysis and tars,** Chair: Rajender Gupta		*T 1/3/5* - **Session 15: Coal preparation and feeding,** Chair: Minyan Fu	
10:40 – 11:00	13-1	Subgrid model for slag behaviour at entrained flow gasifier walls (Dmitry Safronov, TU Bergakademie Freiberg – Germany)	14-1	Evaluation of an automated duplicate-sample Fischer Assay setup according to ISO/ASTM standards and analysis of the tar fraction (John Bunt, North-West University – South Africa)	15-1	Custom tailored gasifier feed pumps (Daniel M. Nägel, FELUWA Pumpen GmbH – Germany)
11:00 – 11:20	13-2	Numerical modelling of coal gasification in a small scale circulating fluidised bed reactor (Adam Klimanek, Silesian University of Technology – Poland)	14-2	Oxidative thermal cracking of tar compounds in raw syngas from fluidised bed gasification of solid fuels (Piotr Babiński, Institute for Chemical Processing of Coal – Poland)	15-2	Effect of composting on production of syngas from pyrolysis of hybrid grasses (Adéla Hlavsová, VSB-TUO – Czech Republic)
11:20 – 11:40	13-3	Ash agglomeration in fluidised bed gasification systems: modelling and experimental studies (Aditi B. Khadilkar, The Pennsylvania State University – USA)	14-3	Integrated process of coal pyrolysis with steam reforming of methane for improving tar yield (Haoquan Hu, Dalian University of Technology – China)	15-3	Processing of low rank coals for various applications (Roland Aeckersberg, Loesche GmbH – Germany)
11:40 – 12:00	13-4	A steady state model for predicting performance of small-scale updraft coal gasifiers (Vittorio Tola, University of Cagliari – Italy)	14-4	"Dusty" vs. "Clean" tar reforming of biomass gasification gas – an operational point of view (Winnie Eriksen, Haldor Topsøe A/S – Denmark)	15-4	Effect of coal water slurry aeration on pressure drop in horizontal pipeline (Joanna Bigda, Institute For Chemical Processing Of Coal - Poland)
12:00 – 12:20	13-5	Development of a mathematical model for Lurgi FBDB™ gasification (Martin Gräbner, Air Liquide Forschung & Entwicklung GmbH – Germany)	14-5	Options to reach syngas quality requirements by catalytic reforming of tars and methane from FB-gasification of biomass (Christian Hamel, Fraunhofer UMSICHT – Germany)	15-5	Experimental investigations with a modified briquetting press as feeding system for the next generation pressurised gasifiers (Alexander Rosin, TU Bergakademie Freiberg – Germany)
12:20 – 13:20	**Lunch**					

13:20 – 15:00	*Radebeul-Dresden* - **Session 16: Modelling and validation,** Chair: Andreas Richter			*Lößnitz* - **Session 17: Mineral matter,** Chair: Daniel Roberts		*T 1/3/5* - **Session 18: Gas purification,** Chair: Jason D. Laumb	
13:20 – 13:40	16-1	Bridging the gap between detailed coal kinetics and CFD modelling of entrained flow gasification (Michele Vascellari, TU Bergakademie Freiberg – Germany)	17-1	Influence of temperature and gasification agent on the release of alkaline, sulphur and chlorine species during high temperature gasification of low rank coals (Joanne Tanner, Monash University – Australia)	18-1	Continuous removal of CO_2 under high temperatures and high pressure conditions – approach, current status and outlook (Martin Bublinski, Karlsruhe Institute of Technology – Germany)	
13:40 – 14:00	16-2	Measurements of atomic species concentration in an atmospheric entrained flow gasifier using laser induced breakdown spectroscopy (Peter Kutne, Deutsches Zentrum für Luft- und Raumfahrt e.V. – Germany)	17-2	Equilibrium coal mineral matter simulation and slag formation during an Underground Coal Gasification (UCG) process (Johan van Dyk, African Carbon Energy – South Africa)	18-2	Optimal design of coal gasifiers in combination with sour shift (Rasmus Trane-Restrup, Haldor Topsøe A/S – Denmark)	
14:00 – 14:20	16-3	Flamelet/progress variable modelling in partial oxidation systems (Franziska Hunger, TU Bergakademie Freiberg – Germany)	17-3	Effect of gas-phase alkali species on tar reforming catalyst (Pouya Haghighi Moud, KTH - Chemical Technology – Sweden)	18-3	Progress of carbon dioxide capture with solid sorbents at elevated temperature in Taiwan (Yau-Pin Chyou, Institute of Nuclear Energy Research – Taiwan)	
14:20 – 14:40	16-4	Computational fluid dynamics modelling for parametric study on co-gasification of coal blended with biomass in a 300MWe one-stage oxygen-blown entrained bed co-gasifier (Sang Shin Park, Yonsei University – South Korea)	17-4	Characterisation of mineral matter particles in gasification and combustion processes (Christopher Thiel, TU Dresden – Germany)	18-4	First experimental pilot plant scale tests of CO_2 capture with regeneration of mono-ethanolamine solvent (Gabriele Calì, Sotacarbo S.p.A. – Italy)	
14:40 – 15:00	16-5	CFD modelling & simulations of an industrial wet flue gas desulphurisation unit (Raymond Everson, North-West University – South Africa)	17-5	The potential of EVT – ICP OES for characterisation of energy resources - direct solid sample analysis of elements (Daniela Bauer, TU Bergakademie Freiberg – Germany)	18-5	Influence of feed impurities on CoMo-based sour shift catalyst (Mads Kaarsholm, Haldor Topsøe A/S – Denmark)	
15:00 – 15:30	**Coffee Break**						
15:30 – 17:10	*Radebeul-Dresden* - **Session 19: Advanced processes and future concepts,** Chair: Poul Erik Højlund Nielsen			*Lößnitz* - **Session 20: Mineral matter,** Chair: Johan van Dyk		*T 1/3/5* - **Session 21: Advanced conversion processes,** Chair: Aleksander Sobolewski	
15:30 – 15:50	19-1	BASF and acetylene – 50 years of natural gas based acetylene production - now the only clean technology for acetylene production (Maximilian Vicari, BASF SE – Germany)	20-1	Evaluation of the slagging behaviour of Australian brown coal ashes (David Harris, CSIRO Energy Technology – Australia)	21-1	A concept of polish lignite in-situ conversion using hybrid gasification method (Magdalena Król, KGHM Cuprum Ltd. Research and Development Centre – Poland)	
15:50 – 16:10	19-2	Impact of trace H_2S and other impurities contained in coal derived syngas on performance of SOFC Ni-YSZ anode (Koji Kuramoto, National Institute of Advanced Industrial Science and Technology – Japan)	20-2	Ceramic filter candle and refractory materials for utilisation in allothermal fluidised bed gasification (Sarah Schaafhausen, Forschungszentrum Jülich GmbH – Germany)	21-2	Inhibition and elimination of carbon deposition in dry gas desulfurisation process of advanced Oxy-fuel IGCC power generation with carbon capture capability with small penalty on thermal efficiency (Makoto Kobayashi, Central Research Institute of Electric Power Industry – Japan)	
16:10 – 16:30	19-3	Efficiency and flexibility potential by integrating water electrolysis in IGCC power plants for excess power storage (Alexander Buttler, TU München – Germany)	20-3	Investigations on slags under gasification process conditions (Daniel Schwitalla, TU Bergakademie Freiberg – Germany)	21-3	Indirect gasification for high efficient conversion of high ash coal and lignite (Bram van der Drift, ECN – The Netherlands)	
16:30 – 16:50	19-4	Application of artificial neural network In technology assessment of coal gasifier performance (Wenbin Zhang, Changzheng Engineer Co.Limited – China)	20-4	Al_2O_3-ZrO_2-TiO_2 – new promising environmental refractory lining materials for slagging gasifiers (Patrick Gehre, TU Bergakademie Freiberg – Germany)	21-4	Supercritical conversion – design of the scaled unit in Czech Republic (Marek Šváb, Dekonta, a.s. – Czech Republic)	
18:00 – 19:30	**Vineyard Tour / Visit Karl-May-Museum**						

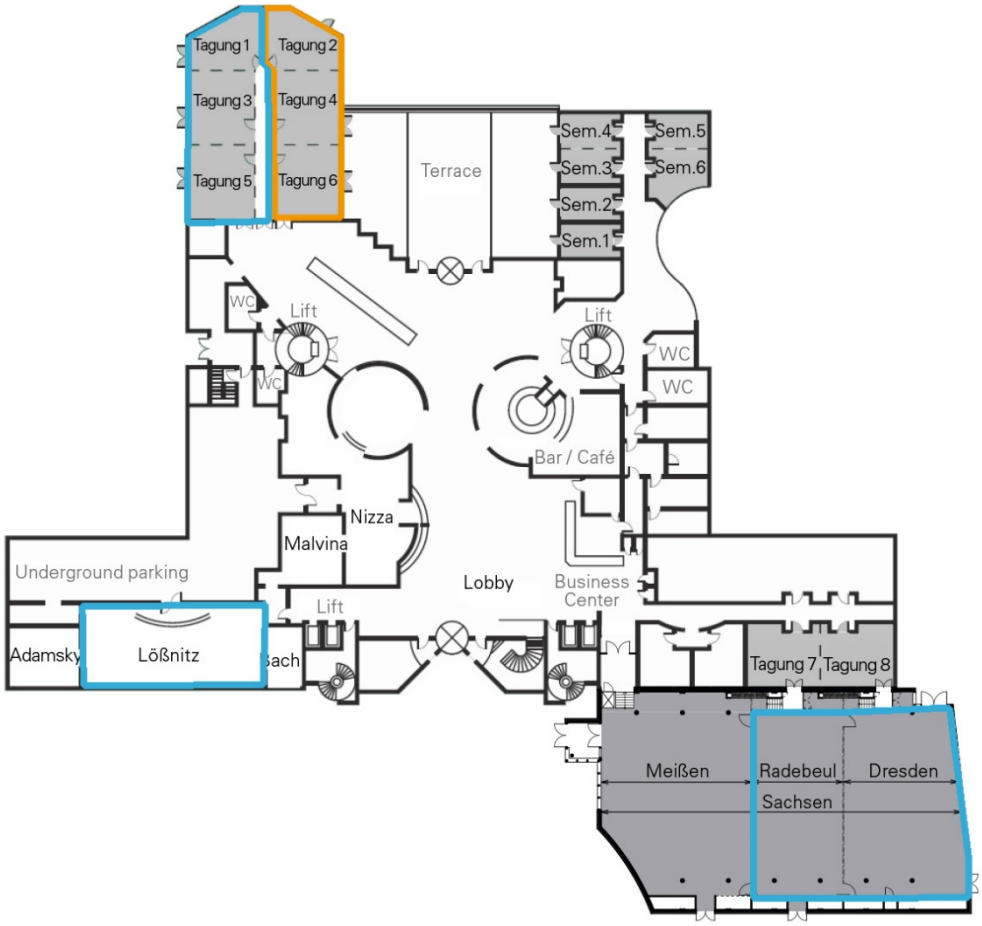
Wednesday, 21 May 2014	
07:30 – 12:00	Registration
08:00 – 12:00	*Meißen* - Posters and Exhibition
08:00 – 09:20	*Radebeul-Dresden* - **Session 22: Gasification: Trends and technology needs from industrial perspectives,** Chair: Christopher Higman
08:00 – 08:20	22-1: The challenge: Economically attractive and environmentally friendly use of local energy resources (Frank Hannemann, Siemens Fuel Gasification Technology GmbH & Co. KG – Germany)
08:20 – 08:40	22-2: Gasification – opportunities and challenges (Hubert W. Schenck, Shell Global Solutions International BV – The Netherlands)
08:40 – 09:00	22-3: Development of Tsinghua gasification technology and discussions on technology selection (Jiansheng Zhang, Tsinghua University – China)
09:00 – 09:20	22-4: Lurgi FBDB™ MK+™ gasification technology (Frederic Judas, Air Liquide Global E&C Solutions / Lurgi GmbH – Germany)
09:20 – 09:40	**Coffee Break**
09:40 – 11:00	*Radebeul-Dresden* - **Session 23: Gasification: Trends and technology needs from industrial perspectives,** Chair: Bernd Meyer
09:40 – 10:00	23-1: The BGL – Commercial plants and pilot testing, Status and perspectives on Envirotherm BGL-technology (Hansjobst Hirschfelder, Envirotherm GmbH – Germany)
10:00 – 10:20	23-2: SES gasification projects and technology updates (Francis Lau, Synthesis Energy Systems – USA)
10:20 – 10:40	23-3: Gasification: markets, technology, developments (Hanno Tautz, Linde AG – Germany)
10:40 – 11:00	23-4: Opposed Multi-Burner gasification and its application prospects (Guangsuo Yu, East China University of Science and Technology – China)
11:00 – 11:20	**Coffee Break**
11:20 – 12:40	*Radebeul-Dresden* - **Session 24: Gasification : Trends and technology needs from industrial perspectives,** Chair: Maarten van der Burgt
11:20 – 11:40	24-1: Requirements for syngas generation technologies from the perspective of a GTL & CTL technology user and developer (Pauli S. Baumann, Sasol Technology – South Africa)
11:40 – 12:00	24-2: Requirements for synthesisgas-supply to a chemical Verbund (Martin Gall, BASF SE – Germany)
12:00 – 12:20	24-3: Production and conversion of synthesis gas, future perspectives (Poul Erik Højlund Nielsen, Haldor Topsøe A/S – Denmark)
12:20 – 12:40	24-4: Commercial status of coal gasification technology and need for low rank coal gasification (Qianlin Zhuang, KBR, Inc. – USA)
12:40 – 13:00	**Closing Ceremony**
13:00 – 14:00	**Lunch**
14:00 – 19:30	**Technical Tour 1: Freiberg**

Thursday, 22 May 2014		
08:00 – 18:00	**Technical Tour 2: Schwarze Pumpe (08:30 – 15:30)**	**Technical Tour 3: Vřesová (08:15 – 17:45)**
08:00 – 18:00	**Short Course: Gasification Processes**	

Friday, 23 May 2014	
08:00 – 18:00	**Short Course: Gasification Processes**

Poster session programme	
P 01	Development of laser-induced incandescence for monitoring the particle conversion in an atmospheric entrained flow gasifier overrated with slurry (Klaus Peter Geigle, Deutsches Zentrum für Luft- und Raumfahrt e.V. – Germany)
P 02	Start-up of high pressure drop tube gasifier (Victor Gonzalez, TU Bergakademie Freiberg – Germany)
P 03	High temperature ceramic heat exchanger for heat recovery in coal and biomass gasification processes (Nina Hack, TU Dresden – Germany)
P 04	Effect of inherent mineral on lignite pyrolysis under methane by TG-MS and in fixed-bed reactor (Haoquan Hu, Dalian University of Technology – China)
P 05	Kinetics analysis on drying and moisture re-adsorption of HLH lignite in nitrogen and methane (Haoquan Hu, Dalian University of Technology – China)
P 06	Reduced H_2 inhibition during co-gasification of coal-biomass blended char (Hyo Jae Jeong, Yonsei University – South Korea)
P 07	Hydrocarbon production of gasoline range from syngas on the promoted cobalt-based hybrid catalysts (Suk-Hwan Kang, Plant Engineering Center, Institute for Advanced Engineering – South Korea)
P 08	The study of reaction characteristic using roto south coal in catalyst-steam gasification (Tae-Jin Kang, Ajou University – South Korea)
P 09	Gasification kinetics of the brown coal char with respect to char structure development (Evgeniya Komarova, TU Bergakademie Freiberg – Germany)
P 10	Study on steam effect over Cu-Sn-Zr based catalyst for SO_2 reduction in direct sulfur recovery process (Tae Jin Lee, Yeungnam University – South Korea)
P 11	Process modelling and energy analysis of an integrated coal gasification system (Chao Li, East China University of Science and Technology – China)
P 12	Syngas combustion in ash layer remained on coal surface during gasification (Xi Lin, Beijing University of Chemical Technology – China)
P 13	Textural investigation of coke using a wavelet-based image analysis (Hannu Makkonen, University of Oulu – Finnland)
P 14	Low temperature gasification of low-rank coal using a circulating fluidised bed gasifier (Koichi Matsuoka, National Institute of Advanced Industrial Science and Technology – Japan)
P 15	The determination of surface area trends in coal-derived gasification chars by Small Angle X-Ray Scattering (Leigh Morpeth, CSIRO Energy Technology – Australia)
P 16	Effect of temperature and pressure on direct coal liquefaction (No-Kuk Park, Yeungnam University – South Korea)
P 17	By-product of coal gasification and combustion in fluidised bed pilot installation (Radoslaw Pomykala, AGH University of Science and Technology – Poland)
P 18	Operation characteristics in a 50 kW scale SNG process consist of adiabatic reactors (Jae-Hong Ryu, Plant Engineering Center, Institute for Advanced Engineering – South Korea)
P 19	The influence of added potassium compounds on the swelling behaviour of a high-swelling South African coal under pyrolyzing conditions (Christien Strydom, North-West University – South Africa)
P 20	Production of high-strength coke from non-caking coals (Toshimasa Takanohashi, National Institute of Advanced Industrial Science and Technology – Japan)
P 21	Plasma assisted preparation of coal for combustion (Alexandr Ustimenko, Research Institute of Experimental and Theoretical Physics – Kazakhstan)
P 22	Mössbauer mineralogy of different coals used in three gasification processes (Frans Waanders, North-West University – South Africa)
P 23	Study on ash melting behavior of Rhenish brown coal and Colombian hard coal in gasification process (Guanjun Zhang, TU Bergakademie Freiberg – Germany)

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 programme.



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