25th International Conference on Fluidized Bed Conversion

Conference Information

HOST

Southeast University, China

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* This document is circulated for review and feedback. Comments are requested by March 25, 2024

Social Events

Kun Qu Opera, which originated during the Ming dynasty (14th-17th centuries) in Kunshan, a historic city within Suzhou, Jiangsu Province, is one of China's most historically significant theatrical traditions.

Recognized by UNESCO as a Masterpiece of Intangible Cultural Heritage, Kun Qu Opera has embodied the pinnacle of Chinese artistic elegance. As the "living fossil of Chinese theater", it seamlessly integrates poetry, music, and dance into an aesthetic language that not only inspired Peking Opera but continues to influence China's performing arts today.

We are delighted to announce that a traditional Kun Qu Opera performance will be featured during the banquet on the evening of April 7th for our esteemed guests. Please stay tuned for this enchanting cultural experience.

Study Visits

We are delighted to offer two technical visit options for our conference participants. You are welcome to choose one or both visits according to your interests. Please ensure you register by the deadline of April 5th, 2025, as late registrations will not be accepted.

Option 1: Everbright Environmental Protection Energy (Nanjing) Co., Ltd.

Time: April 9th, 2025, 14:30-17:00

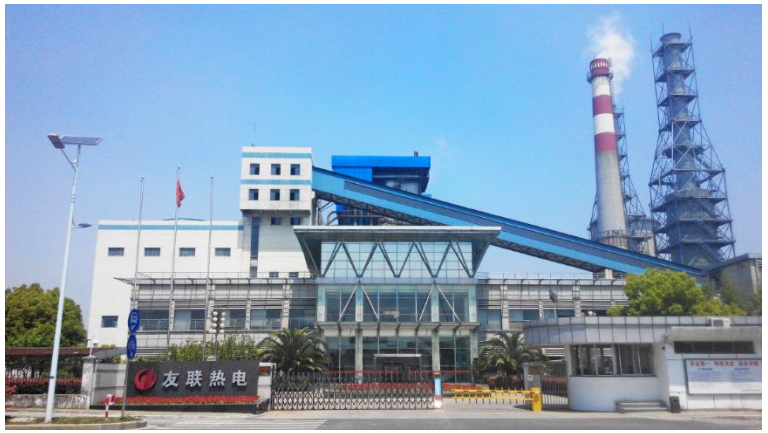
Location: No.1 Jingmai Industrial Park, Nanjing

- Largest municipal solid waste incineration project in Nanjing under a BOT model
- Processes 4,000 tons of waste daily
- Generates 680 million kWh of electricity annually
- Employs multi-stage reciprocating mechanical grate furnaces tailored for high-moisture, low-calorific waste
- Features advanced emission control with dual-stage SNCR and low-temperature SCR
- First MSW incineration project in China to adopt SCR denitrification
- Integrated food waste treatment facility with resource recovery through anaerobic digestion
- Comprehensive heating supply system
- Real-time emission monitoring and online sharing
- Hosts an industry-first simulation training center and offers a 720° VR cloud-based virtual tour for environmental education

Option 2: Wuxi Huaguang Environment & Energy Group Co., Ltd and Wuxi Youlian Thermal Power Co., Ltd, Wuxi

Time: April 10th, 2025, 09:00-17:30

Location: No.131 Meiyu Road, Xinwu District, Wuxi (Distance from the conference center: 181 km, approximately 2~2.5 hours by bus)



Wuxi Huaguang Environment & Energy Group Co., Ltd.

- Boasts 67 years of boiler manufacturing and stands as one of China's leading CFB boiler producers.
- Specializes in eco-friendly coal-fired, zero-carbon biomass-fired, and solid waste boilers, along with HRSGs and hydrogen electrolysis equipment.
- Visit highlights include the company's development history with a 5G-enabled digital twin factory, advanced boiler production lines, and an automated hydrogen electrolyzer production line.

Wuxi Youlian Thermal Power Co., Ltd.

- A subsidiary established in 2003, operating two 100 t/h and two 150 t/h CFB boilers.
- Features ultra-low emission retrofits with SCR and ammonia-based desulfurization systems, and a biomass co-firing system utilizing approximately 10% garden waste.
- Key visit areas encompass the central control room, boiler and environmental protection islands, and the biomass conveying and co-firing system.

Overall Conference Schedule

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<tr><td>08:30-08:50</td><td rowspan="12">On-site Check-in & Conference Materials Pick-up</td><td>Opening Ceremony</td><td rowspan="3">7 Parallel Sessions</td><td rowspan="4">Plenary Lecture IV
(08:30-09:30)
&
Plenary Lecture V
(09:30-10:30)</td><td rowspan="12">Study Visit Option 2
Wuxi Huaguang Environment & Energy Group Co., Ltd and Wuxi Youlian Thermal Power Co., Ltd, Wuxi
(09:00-17:30)</td></tr>
<tr><td>08:50-09:50</td><td>Plenary Lecture I</td></tr>
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(10:30-11:30)
&
Plenary Lecture III
(11:30-12:30)</td><td rowspan="3">7 Parallel Sessions
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<tr><td>10:50-11:50</td><td>Plenary Lecture VI</td></tr>
<tr><td>11:50-12:30</td><td>Closing Ceremony
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<tr><td>12:30-13:30</td><td>Lunch</td><td>Lunch</td><td>Lunch</td></tr>
<tr><td>13:30-15:30</td><td>7 Parallel Sessions</td><td>7 Parallel Sessions</td><td rowspan="4">Study Visit Option 1
Everbright Environmental Protection Energy (Nanjing) Co., Ltd., Nanjing
(14:30-17:00)</td></tr>
<tr><td>15:30-15:50</td><td>Coffee Break</td><td>Coffee Break</td></tr>
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<tr><td>18:30-20:30</td><td>Welcome Reception</td><td>Banquet</td><td>Dinner</td><td></td><td></td></tr>
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Daily Program

Sunday, April 6, 08:30-20:30

08:30-18:30	**On-site Check-in & Conference Materials Pick-up** (***Location:*** *Lobby*)
18:30-20:30	**Welcome Reception** (***Location:*** *Purple Cloud Pavilion & Jin's Cafe*)

Monday, April 7, 08:30-13:30

Opening Ceremony ***Host:*** *Lunbo Duan, Southeast University,* ***Location:*** *Purple Palace Ballroom*		
08:30-08:40	Opening Remarks & Welcome Address	**Lunbo Duan** *Southeast University, China*
08:40-08:45	Address by the Honored Guest	**Bo Leckner** *Chalmers University of Technology, Sweden*
08:45-08:50	Address by the Honored Guest	**Guangxi Yue** *Tsinghua University, China*
Plenary Session 1 ***Chair:*** *Bo Leckner, Chalmers University of Technology,* ***Location:*** *Purple Palace Ballroom*		
08:50-09:50	**Latest development of circulating fluidized bed combustion technology in China**	**Junfu Lyu** *Tsinghua University, China*
09:50-10:10	**Group Photo** (***Location:*** *Venue Entrance*)	
10:10-10:30	**Coffee Break** (***Location:*** *Lobby*)	

Plenary Session 2 ***Chair:*** *Guangxi Yue, Tsinghua University,* ***Location:*** *Purple Palace Ballroom*		
10:30-11:30	**Exploring fluidized-bed reactor designs in chemical looping systems**	**Francisco García-Labiano** *Instituto de Carboquímica (ICB-CSIC), Spain*
11:30-12:30	**Modelling of reacting flows and industry applications**	**Yansong Shen** *University of New South Wales, Australia*
12:30-13:30	**Lunch** (***Location:*** *Purple Cloud Pavilion & Jin's Cafe*)	

Monday, April 7, 13:30-20:30 (Parallel Sessions & Poster Session)

Room	Golden Thread	Green Willow	Beautiful Bamboo	Ginkgo	Curling Dragon	Crouching Tiger	Golden Sweet Osmanthus
13:30-15:30	**1A** Combustion	**1B** Energy Storage	**1C** Computing & Simulation	**1D** Operational Experience	**1E** Carbon Capture & Utilization	**1F** Particulate solid & fluidization	**1G** Sustainable & green transition technology
15:30-15:50	**Coffee Break** (***Location:*** *Lobby*)						
15:50-17:20	**2A** Advanced Diagnostics	**2B** Advanced Diagnostics	**2C** Computing & Simulation	**2D** Operational Experience	**2E** Chemical, calcium, solid looping	**2F** Particulate solid & fluidization	**2G** Sustainable & green transition technology
17:40-18:30	**Poster Session 1** (***Location:*** *Lobby*)						
18:30-20:30	**Banquet** (***Location:*** *Purple Palace Ballroom*)						

Tuesday, April 8, 08:30-13:30 (Parallel Sessions)

Room	Golden Thread	Green Willow	Beautiful Bamboo	Ginkgo	Curling Dragon	Crouching Tiger	Golden Sweet Osmanthus
08:30-10:10	**3A** Pyrolysis & Cracking	**3B** Pyrolysis & Cracking	**3C** Computing & Simulation	**3D** Operational Experience	**3E** Chemical, calcium, solid looping	**3F** Particulate solid & fluidization	**3G** Sustainable & green transition technology
10:10-10:30	**Coffee Break** (***Location:*** *Lobby*)						
10:30-12:20	**4A** Combustion	**4B** Combustion	**4C** Computing & Simulation	**4D** Operational Experience	**4E** Chemical, calcium, solid looping	**4F** Particulate solid & fluidization	**4G** Sustainable & green transition technology
12:30-13:30	**Lunch** (***Location:*** *Purple Cloud Pavilion & Jin's Cafe*)						

Tuesday, April 8, 13:30-20:30 (Parallel Sessions & Poster Session)

Room	Golden Thread	Green Willow	Beautiful Bamboo	Ginkgo	Curling Dragon	Crouching Tiger	Golden Sweet Osmanthus
13:30-15:30	**5A** Combustion	**5B** Gasification	**5C** Computing & Simulation	**5D** Operational Experience	**5E** Chemical, calcium, solid looping	**5F** Particulate solid & fluidization	**5G** Sustainable & green transition technology
15:30-15:50	**Coffee Break** (***Location:*** *Lobby*)						
15:50-17:40	**6A** Combustion	**6B** Gasification	**6C** Computing & Simulation	**6D** Emissions & Environmental Impact	**6E** Chemical, calcium, solid looping	**6F** Particulate solid & fluidization	**6G** Chemical Reactions
17:40-18:30	**Poster Session 2** (***Location:*** *Lobby*)						
18:30-20:30	**Dinner** (***Location:*** *Purple Cloud Pavilion & Jin's Cafe*)						

Wednesday, April 9, 08:30-13:30

Plenary Session 3 ***Chair:*** *Changsui Zhao, Southeast University,* ***Location:*** *Purple Palace Ballroom*		
08:30-09:30	**Novel fluidized bed reactors for thermochemical conversion of biomass residues to biofuels and biochar**	**Xiaotao Bi** *University of British Columbia, Canada*
09:30-10:30	**Selected topics in chemical reaction engineering of fluidized bed thermochemical conversion of biomass**	**Piero Salatino** *Università degli Studi di Napoli Federico II, Italy*
10:30-10:50	**Coffee Break** (***Location:*** *Lobby*)	
Plenary Session 4 ***Chair:*** *Ben Anthony, Cranfield University,* ***Location:*** *Purple Palace Ballroom*		
10:50-11:50	**Integrated solutions featuring fluidized bed technology for CO_2 neutral/negative industry**	**Vesna Barišić** *Sumitomo SHI FW Oy, Finland*
Closing Ceremony ***Host:*** *Lunbo Duan, Southeast University,* ***Location:*** *Purple Palace Ballroom*		
11:50-12:05	Award Ceremony for Best Paper and Best Poster	**Junfu Lyu** *Tsinghua University, China*
12:05-12:10	Closing Address	**Lunbo Duan** *Southeast University, China*
12:30-13:30	**Lunch** (***Location:*** *Purple Cloud Pavilion & Jin's Cafe*)	

Parallel Session Information - 1A

Monday, April 7

1A Combustion I				13:30-15:30
Chairs: *TBD*				**Room Golden Thread**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	138	A review of research on fluidized bed coal ammonia blending combustion technology	Nanjing Normal University, China Tsinghua University, China	Canbin Huang
13:50	204	Experimental research on emission characteristics of pure ammonia combustion in a bubbling fluidized bed reactor	Pusan National University, Republic of Korea Kunming University of Science and Technology, China	Haotian Ma
14:10	206	Lab-scale and pilot-scale studies on low carbon ammonia-combustion in circulating fluidized bed	Southeast University, China	Lin Li
14:30	071	Evaluation the co-firing limit of ammonia in a circulating fluidized bed under different thermal loads	Zhejiang University, China	Kun Li
14:50	174	Effect of N_2O concentration on bed temperature, residence time and O_2 concentration in flue gas during ammonia combustion using a lab-scale fluidized bed combustor	Korea Institute of Energy Research (KIER), Republic of Korea	Ho Tae Im
15:10	080	Effect of bed materials on the dissociation characteristics of ammonia in a bubbling fluidized bed	Chongqing University, China	Zipeng Guo

Parallel Session Information - 2A

Monday, April 7

2A Advanced Diagnostics I				15:50-17:20
Chairs: *TBD*				**Room Golden Thread**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K01**	**Keynote: Radiation-based imaging techniques for detailed investigation of particle flows**	**Delft University of Technology, The Netherlands**	**J. Ruud van Ommen**
16:20	039	ECT measurement of the coupling between jet and downer	China University of Petroleum-Beijing, China	Zihan Yan
16:40	126	Terahertz radar measurement of the vertical solids flow in a cold flow model of a 330 MW CFB boiler	Chalmers University of Technology, Sweden	Philip Kjaer Jepsen
17:00	148	Powder flow rate measurement in a pipe based on ultrasonic sensing	Zhengzhou University, China	Yanqin Li

Parallel Session Information - 3A

Tuesday, April 8

3A Pyrolysis & Cracking I				**08:30-10:10**
Chairs: *TBD*				**Room Golden Thread**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
08:30	020	Experimental study and application of machine learning methods of lignocellulose biomass fast pyrolysis in fluidized bed	Zhejiang University, China	Longfei Li
08:50	104	Steam cracking of untreated pyrolysis oil and mixed plastic waste in a semi-industrial dual fluidized bed	Chalmers University of Technology, Sweden	Chahat Mandviwala
09:10	109	Optimization of biomass cyclone pyrolyzer in operating parameters and reactor structure	Taiyuan University of Technology, China	Haorui Niu
09:30	128	Heat supply for a molten metal bubble column reactor using partial oxidation of fuel	Korea Institute of Industrial Technology, Republic of Korea	H.T. Kim
09:50	015	Experimental study on biomass integrated fluidization pressurized hydropyrolysis vapor upgrading to produce aviation fuel with NiMo-doped catalysts	Zhejiang University, China	Feiting Miao

Parallel Session Information - 4A

Tuesday, April 8

4A Combustion II				**10:30-12:20**
Chairs: *TBD*				**Room Golden Thread**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
10:30	**K02**	**Keynote: TBD**	**Universidad de Sevilla, Spain**	**Alberto Gomez-Barea**
11:00	205	Experimental study on deep oxygen staging of oxy-biomass combustion in a 15 kW_{th} circulating fluidized bed	Southeast University, China	Tianxin Li
11:20	222	The study on the simulation optimization of biomass oxy-fuel combustion in a circulating fluidized bed based on intrinsic reaction kinetics	Harbin Institute of Technology, China	Dawei Guo
11:40	037	Oxy-fuel co-combustion of biomass and coal blends in a 10 kW_{th} fluidized bed rig	Nazarbayev University, Republic of Kazakhstan	Y. Mukhambet
12:00	084	Mechanism of NO to NH_3 conversion during NO reduction over biomass char in a fluidized bed under a H_2O atmosphere	University of Science & Technology Beijing, China	Chen Ge

Parallel Session Information - 5A

Tuesday, April 8

5A Combustion IV				**13:30-15:30**
Chairs: *TBD*				**Room Golden Thread**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	177	Nano high-entropy oxide enhanced alloy coatings for wear and corrosion resistance in fluidized bed boiler	Southeast University, China	Fangwei Fu
13:50	125	Evaluation of the relationship between straw fouling tendencies and fuel indices in CFB	Czestochowa University of Technology University, Poland	R. Rajczyk
14:10	006	Experimental study on the effects of high-temperature gas-solid mixed fuel properties on jet flame behavior	Institute of Engineering Thermophysics, Chinese Academy of Sciences, China	Yu Lu
14:30	098	Biocarbon production in fluidized beds: Evolution of particle physical properties during biomass conversion	Luleå University of Technology, Sweden	Arango-Durango Eduardo
14:50	131	A novel coal purification-combustion system: combustion characteristics at different air-staging in combustion unit	Institute of Engineering Thermophysics, Chinese Academy of Sciences, China	Shaobo Han
15:10	067	Evolutionary behavior of bed materials in oxygen carrier aided combustion of biomass	Huazhong University of Science and Technology, China	Yingjie Mi

Parallel Session Information - 6A

Tuesday, April 8

6A Combustion V				15:50-17:40
Chairs: *TBD*				**Room Golden Thread**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K03**	**Keynote: Char gasification in chemical looping combustion**	**Huazhong University of Science and Technology, China**	**Haibo Zhao**
16:20	062	Simulation of fluidized bed iron-based oxygen carrier aided methane combustion based on CFD-DEM modeling	Nanjing Normal University, China	Changsheng Bu
16:40	133	SRF conversion in fluidized bed reactor using hot cement raw meal as bed material	Indian Institute of Technology Madras, India	Bollarapu Vinod
17:00	096	Theoretical screening method of perovskite oxygen carriers with high lattice oxygen activity during biomass chemical looping combustion	Huazhong University of Science and Technology, China	Xiaobiao Ma
17:20	200	The role of oxygen carriers as fluidized bed materials: Aided vs catalytic effects and mechanisms	Southeast University, China	Lu Chen

Parallel Session Information - 1B

Monday, April 7

1B Energy Storage				13:30-15:30
Chairs: *TBD*				**Room Green Willow**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	167	Economic analysis of combined heat and power plant coupled with high temperature thermal storage by a fluidized bed	Tsinghua University, China	Wenhan Li
13:50	123	Modeling, process simulation and scale-up of a solar fluidized bed thermochemical battery	STEMS, Consiglio Nazionale delle Ricerche, Italy Università degli Studi di Napoli Federico II, Italy	S. Padula
14:10	142	Investigation on the long-period banked-fire operation characteristics of CFB boiler units coupled with thermal energy storage	Huairou Laboratory, China	Peixing Han
14:30	151	Techno-economic assessment of a thermochemical energystorage process for the production of district heating	Chalmers University of Technology, Sweden	D.C. Guío-Pérez
14:50	193	Study on the thermal storage performance of TiO_2-modified calcium-based pellets by pressurized fluidization	Southeast University, China	Yao Fu
15:10	145	Techno-economic assessment of energy storage integration in fluidized bed systems for low-carbon power generation	Tsinghua University, China Huairou Laboratory, China	Keying Li

Parallel Session Information - 2B

Monday, April 7

2B Advanced Diagnostics II				15:50-17:20
Chairs: *TBD*				**Room Green Willow**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K04**	**Keynote: Advanced measurement techniques for gas-solids fluidized beds for coal and biomass combustion**	**University of Chinese Academy of Sciences, China**	**Haigang Wang**
16:20	021	Traversing nuclear densitometer probe for local density measurements inside fluidized beds	Coanda Research and Development Corporation, Canada	A. Mezo
16:40	175	Online corrosion monitoring of solid waste fluidized bed boilers using electrochemical techniques	Southeast University, China	Yafang Wang
17:00	038	Advanced diagnostics for circulation balance monitoring in CFBs	Sumitomo SHI FW Energia Oy, Finland	Liukkonen Mika

Parallel Session Information - 3B

Tuesday, April 8

3B Pyrolysis & Cracking II				08:30-10:10
Chairs: *TBD*				**Room Green Willow**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
08:30	050	Effects of high sodium content on low-rank coal pyrolysis and neural network prediction of Na and Cl release	Zhejiang University, China	Zhihua Tian
08:50	117	Turquoise hydrogen production via hydrocarbon pyrolysis in a molten metal bubble column reactor	Korea Institute of Industrial Technology, Republic of Korea	Geun Yong Park
09:10	061	Effect of phosphorous/nitrogen additions on structure evolution and stability of biochar	Qingdao University of Science and Technology, China	Han Zhang
09:30	019	Research on the migration and transformation mechanism of alkali metals in the co-pyrolysis of high sodium coal and biomass based on fluidized bed boiler	Zhejiang University, China	Xu Li
09:50	127	Hydrogen and carbon production technology from pyrolysis of hydrocarbon gases	Korea Institute of Industrial Technology, Republic of Korea	Y.J. Chang

Parallel Session Information - 4B

Tuesday, April 8

4B Combustion III				**10:30-12:20**
Chairs: *TBD*				**Room Green Willow**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
10:30	**K05**	**Keynote: Fundamental research and technology development on clean and low-carbon combustion of carbon-containing solid waste**	**Shanxi University, China**	**Fangqin Cheng**
11:00	048	Exploration of boundary conditions and lower limit of calorific value of ultra-low calorific value solid waste for stable combustion in CFB boiler	Tsinghua University, China	Yuyang Zeng
11:20	091	Study of sewage sludge combustion in a bubbling fluidized bed	A. V. Luikov Heat and Mass Transfer Institute, National Academy of Sciences of Belarus, Belarus	E. Pitsukha
11:40	146	Research and application of municipal solid waste circulating fluidized bed combustion technology	Tsinghua University, China Huairou Laboratory, China	Weixiong Zheng
12:00	043	Research on key technologies of circulating fluidized bed boiler fired gasification fine slag	Nanjing Tech University, China	Yu Li

Parallel Session Information - 5B

Tuesday, April 8

5B Gasification I				**13:30-15:30**
Chairs: *TBD*				**Room Green Willow**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	093	Thermochemical conversion of biomass and plastics in steam: The relevance of an active bed in a large scale dual fluidized bed	Chalmers University of Technology, Sweden	Renesteban Forero Franco
13:50	078	CPFD simulation study on oxygen enrichment characteristics of biomass in industrial circulating fluidized bed gasifier	Huazhong University of Science and Technology, China	Shihong Zhang
14:10	042	Comparison of pyrolysis and gasification characteristics of low rank coal and torrefied herbaceous biomass	Institute for Advanced Engineering, Clean Energy Conversion Research Center, Republic of Korea	Tae-Jin Kang
14:30	113	Experimental and numerical investigation on the fluidized bed gasification characteristics for combustible gas production	Tsinghua University, China Huairou Laboratory, China	Bin Wen
14:50	155	Kinetics of biomass-char catalyzed with potassium in a fluidized bed gasifier	University of Seville, Spain	W.A. González
15:10	053	Model-based estimation of fuel mixing in a lab-scale bubbling fluidized bed biomass CO_2 gasifier	Lappeenranta-Lahti University of Technology LUT, Finland	Antti Pitkäoja

Parallel Session Information - 6B

Tuesday, April 8

6B Gasification II				**15:50-17:40**
Chairs: *TBD*				**Room Green Willow**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K06**	**Keynote: The possibility of using gasification in dual FB-CFB reactors and iron oxides chemical cycles**	**All Russian Thermal Engineering Institute, Russia**	**G.A. Ryabov**
16:20	063	Pilot tests of gasification process in a novel turbulent fluidized bed gasifier for biomass	Tsinghua University, China	Kunlin Cong
16:40	052	Investigation of biomass CO_2-H_2O-O_2 circulating fluidized bed biomass gasification for methanol production	Lappeenranta-Lahti University of Technology LUT, Finland	Pitkäoja Antti
17:00	049	Investigation on the impact of air equivalence ratio on the characteristics of lignite coal partial gasification products in fluidized bed	Zhejiang University, China	Bin Zhang
17:20	154	Pilot-scale hot syngas cleaning for two-stage fluidized bed biomass gasification to renewable natural gas	The University of British Columbia, Canada	Zhijie Fu

Parallel Session Information - 1C

Monday, April 7

1C Computing & Simulation: Fluid Dynamics I				13:30-15:30
Chairs: *TBD*				**Room Beautiful Bamboo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	060	Computational fluid dynamics analysis of gas solid flow in a dual circulation fluidized bed for a biomass-fueled chemical looping combustion system	Huazhong University of Science and Technology, China	Xue Lyu
13:50	086	Computational study on waste tire fast pyrolysis in a conical spouted bed reactor	Yonsei University, Republic of Korea	Myung Kyu Choi
14:10	110	Numerical investigation on liquid-solid two-phase flow and stress distribution characteristics in a batch slag-discharge lock hopper	Nanjing Normal University, China	Wenlong Du
14:30	172	Food grain particle shrinkage model development in drying basedstudy in FBD by using TFM, CFD-DEM and RPT basedexperimental techniques	Indian Institute of Technology Jammu, India	Mahesh Nadda
14:50	213	High-fidelity numerical simulation of multicomponent combustible industrial solid waste in a circulating fluidized bed	Southeast University, China	Minmin Zhou
15:10	129	Numerical investigation of multicomponent gas mixing characteristics in a bubbling fluidized bed based on MP-PIC method	Tsinghua University, China Huairou Laboratory, China	Changhao Ma

Parallel Session Information - 2C

Monday, April 7

2C Computing & Simulation: Heat Transfer				15:50-17:20
Chairs: *TBD*				**Room Beautiful Bamboo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K07**	**Keynote: CFD-DEM simulations of fluidization and heat transfer behavior of spherocylindrical particles in a spouted bed**	**Washington University in St. Louis, USA**	**Ramesh K. Agarwal**
16:20	074	A novel CFD-DEM coupled DDPM modelling of fluid flow, heat, and mass transfer in the dense fluid-particle systems within micro-fluidized bed involving surface reactions	Tsinghua University, China Huairou Laboratory, China	Xueyu Tang
16:40	124	Design and modeling of a pilot-scale coupled combustion-pyrolysis fluidized bed facility	Tallinn University of Technology, Estonia	Fanfan Xu
17:00	186	Numerical simulation of CO_2 concentration distribution and heat transfer behavior in the microenvironment beneath positive pressure protective clothing	Nanjing Normal University, China	Zimian Yin

Parallel Session Information - 3C

Tuesday, April 8

3C Computing & Simulation: Fluid Dynamics II				08:30-10:10
Chairs: *TBD*				**Room Beautiful Bamboo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
08:30	**K08**	**Keynote: Numerical modelling of particle dispersion in liquids using DEM-SPH**	**University of Surrey, UK**	**Charley Wu**
09:00	**K09**	**Keynote: LBM-DEM model for fast simulation of gas-solid fluidization and LMFD software**	**Institute of Process Engineering, Chinese Academy of Sciences, China**	**Limin Wang**
09:30	152	Numerical study of fluid-dynamics in a bubbling fluidizedbed with solids crossflow	Chalmers University of Technology, Sweden	Munavara Farha
09:50	164	Exploring a steady-state multiscale CFD method for fluidization	Institute of Process Engineering, Chinese Academy of Sciences, China	Wei Wang

Parallel Session Information - 4C

Tuesday, April 8

4C Computing & Simulation: "AI+" I				**10:30-12:20**
Chairs: *TBD*				**Room Beautiful Bamboo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
10:30	**K10**	**Keynote: AI-based understanding and prediction of fluidized bed phenomena**	**Chalmers University of Technology, Sweden**	**Jia Wei Chew**
11:00	180	Prediction of oxygen release performance in metal oxides based on text mining and data-driven method	Southeast University, China	Yushuang Jiang
11:20	012	Hybrid fuzzy-deep learning approach for generative adaptive emission prediction system in industry: FLAME-GAS Model	Jan Dlugosz University in Czestochowa, Poland	J. Krzywanski
11:40	047	Integrating machine learning predictions of pyrolysis products for improved biomass gasification MP-PIC simulations	Huazhong University of Science and Technology, China	Zhao Yang
12:00	011	Modeling and optimization of the drying process based on gas-solid fluidization	Soonchunhayng University, Republic of Korea	Jongmin Choi

Parallel Session Information - 5C

Tuesday, April 8

5C Computing & Simulation: Thermal Conversion				13:30-15:30
Chairs: *TBD*				**Room Beautiful Bamboo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	160	Optimization study of CPFD numerical simulation of ammonia-doped combustion in circulating fluidized bed boiler	Xi'an Jiaotong University, China	Yixiang Zhang
13:50	115	1D Numerical simulation of ammonia co-firing in a circulating fluidized bed boiler	Korea Institute of Industrial Technology, Republic of Korea	Geun Yong Park
14:10	130	Numerical simulation of coal-ammonia co-combustion in 350MW supercritical CFB boiler based on CPFD method	North China Electric Power Unicersity, China	Zepeng Yang
14:30	119	Experiments and ab initio simulation on the ammonia conversion characteristics over metal oxide surfaces	Tsinghua University, China Huairou Laboratory, China	Bingjun Du
14:50	211	CPFD simulation of injection positions and PA/SA ratios on ammonia co-firing in a 550 MWe USC CFB boiler for carbon-free power generation	Pusan National University, Republic of Korea	Joonwoo Kweon
15:10	215	Numerical simulation study on the fluidization characteristics of a 700MW CFB boiler and its impact on boiler efficiency	Shanghai Boiler Works Co., Ltd., China	Wenqiang Chen

Parallel Session Information - 6C

Tuesday, April 8

6C Computing & Simulation: "AI+" II				15:50-17:40
Chairs: *TBD*				**Room Beautiful Bamboo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K11**	**Keynote: Demonstration of advanced predictive and prescriptive algorithms to control large scale CFB unit based on digital twin technique**	**Silesian University of Technology, Poland**	**W.P. Adamczyk**
16:20	165	Bridging the gap between periodic domain and fluidized bed	Institute of Process Engineering, Chinese Academy of Sciences, China	Yuxuan Zhou
16:40	132	Advanced computational methods for optimizing process parameters in chemical looping combustion	Jan Dlugosz University in Czestochowa, Poland	L. Lasek
17:00	223	Machine learning-empowered CO_2 adsorption towards environmental sustainability	Southeast University, China	Xiangzhou Yuan
17:20	094	Fluidization behavior analysis of iron ore powder in hydrogen-based direct reduction using deep learning	University of Science and Technology Beijing, China	Chuanhao Wang

Parallel Session Information - 1D

Monday, April 7

1D Operational Experience: Optimization & Design I				13:30-15:30
Chairs: *TBD*				**Room Ginkgo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	055	Study on the uniformity of air distribution and wear in circulating fluidized bed boilers	Chongqing University, China	Zhicun Liu
13:50	092	Study on the influence of coal injection and air distribution strategy on the fire restart of subcritical CFB boiler	Shanxi University, China	Dongxiong Li
14:10	007	Thermodynamic and hydrodynamic stabilization of load changes in a 1 MW_{th} CFB combustion pilot plant via partial flue gas recirculation	Technical University of Darmstadt, Germany	Alexander Kuhn
14:30	102	Experimental study on the gas distribution along the furnace height in a CFB at a wide load	Zhejiang University, China	Qingyu Zhang
14:50	147	Characterization of peak shifting in circulating fluidized bed boilers across all load conditions	Tsinghua University, China North China Electric Power University, China	Xiwei Ke
15:10	185	Stress analysis and life evaluation of high temperature superheater wall in circulating fluidized bed boiler under rapidly variable load condition	Huairou Laboratory, China	Zhao Li

Parallel Session Information - 2D

Monday, April 7

2D Operational Experience: Large-Scale				15:50-17:20
Chairs: *TBD*				**Room Ginkgo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K12**	**Keynote: Measurements of the gas-solid non-uniformity characteristics in a 600 MW supercritical circulating fluidized bed boiler**	**Chongqing University, China**	**Jianbo Li**
16:20	216	Introduction to the long-period operation of the world's first 600MW supercritical CFB boiler	Sichuan Baima CFB Demonstration Power Plant Co., Ltd., China Tsinghua University, China	Zheng Gan
16:40	162	Safety analysis of high-temperature steam system operation in ultra-supercritical CFB boilers under emergency water cutoff conditions	CHN ENERGY Investment Group Co., Ltd., China Chongqing University, China	Hu Wang
17:00	107	Numerical investigation on the evolution of temperature fields during long-term banked-fire operation of a CFB boiler	Tsinghua University, China Huairou Laboratory, China	Zhengping Wang

Parallel Session Information - 3D

Tuesday, April 8

3D Operational Experience: Optimization & Design II				08:30-10:10
Chairs: *TBD*				**Room Ginkgo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
08:30	087	Investigation into the heat transfer characteristics of a novel bottom ash heat recovery system for circulating fluidized bed boiler: A pilot-scale experimental and numerical study	Sichuan Baima CFB Demonstration Power Plant Co., Ltd., China Chongqing University, China	Zheng Gan
08:50	105	Dynamic response characteristics for various conditions in circulating fluidized bed	Huairou Laboratory, China	Hongliang Xiao
09:10	082	Operating characteristics and advantages of horizontal circulating fluidized bed boiler for different biomass fuels	Tsinghua University, China Nowva Energy Co., Ltd., China	Kunlin Cong
09:30	088	An experimental investigation into the fluidization properties for particles of a Bell-type air cap coupled with a Helmholtz chamber	Chongqing University, China	Rongdi Zhang
09:50	187	Investigation on the rapid load adjustment capability of circulating fluidized bed boilers based on theoretical analysis and industrial practices	Huairou Laboratory, China North China Electric Power University, China	Xiwei Ke

Parallel Session Information - 4D

Tuesday, April 8

4D Operational Experience: High-Ash Fuel				10:30-12:20
Chairs: *TBD*				**Room Ginkgo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
10:30	**K13**	**Keynote: Some operating issues with high ash fuels in CFBC boilers and possible solutions**	**Tallinn University of Technology, Estonia**	**Alar Konist**
11:00	064	Real-time monitoring of external ash flow rate in CFB boilers considering refractory heat transfer characteristics	CHN ENERGY Investment Group Co., Ltd., China Chongqing University, China	Hu Wang
11:20	112	Effects of alternative bed materials on the operation characteristics of a furfural residue-fired CFB boiler	Huairou Laboratory, China	Xin Yu
11:40	183	Analysis of wear parts and application of anti wear measures for 465 t/h circulating fluidized bed boiler	Sinopec (Tianjin) Petrochemical Co., Ltd, China	ChangHai Li
12:00	231	Application of high-temperature wear-resistant coatings and high thermal conductivity composite materials in large-scale CFB boilers	Yixing Guoqiang Furnace Industry Co., Ltd., China Southeast University, China	Yueming Wang

Parallel Session Information - 5D

Tuesday, April 8

5D Operational Experience: Optimization & Design III				13:30-15:10
Chairs: *TBD*				**Room Ginkgo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	171	Biomass co-combustion experiment in the 465 t/h CFB boiler	Sinopec (Tianjin) Petrochemical Co., Ltd., China	Zhigang Yang
13:50	100	Modeling and simulation of circulating fluidized bed boiler based on operation data	Tsinghua University, China	Yundong Zhao
14:10	065	Comparative analysis of thermal inertia in refractory materials for large-scale CFB boilers with external heat exchangers	Chongqing University, China	Zhonghao Dong
14:30	229	Heavy metal analysis during the incineration of sewage sludge in BFB rig	Nazarbayev University, Republic of Kazakhstan	Yerbol Sarbassov
14:50	208	Combustion behavior and NO emission of oxygen carrier aided combustion in a 75 t/h biomass-fired circulating fluidized bed boiler	Southeast University, China	Guang Sun

Parallel Session Information - 6D

Tuesday, April 8

6D Emissions & Environmental Impact				**15:50-17:40**
Chairs: *TBD*				**Room Ginkgo**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K14**	**Keynote: Fundamental research and technology development on clean and low-carbon combustion of carbon-containing solid waste**	**Tsinghua University, China**	**Yang Zhang**
16:20	022	Mathematical model for the determination of nitrous oxide (N_2O) and nitrogen oxides (NO_x) emissions during thermal sewage sludge treatment in fluidized bed furnaces and validation in Praxis	TU Dresden, Chair for Energy Process Engineering, Germany	Daniel Bernhardt
16:40	054	Purification reaction and nitrogen conversion mechanism of high alkali coal	Institute of Engineering Thermophysics, Chinese Academy of Sciences, China	Lixuan Li
17:00	121	Development of an efficient NO_x removal technology using a molten metal reactor system	Korea Institute of Industrial Technology, Republic of Korea	Jung Hyeon Park
17:20	111	Numerical simulation of flue gas deacidification in a dry-process tower with CPFD method	Shanxi Research Institute for clean energy of Tsinghua University, China	Rudan Feng

Parallel Session Information - 1E

Monday, April 7

1E Carbon Capture & Utilization				13:30-15:30
Chairs:				**Room Curling Dragon**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	090	S self-doped porous carbon for efficient CO_2 capture	Southeast University, China	Xiaoping Chen
13:50	005	Investigation of moisture swing-based carbon capture using fluidized bed	Soonchunhyang University, Republic of Korea	Jongmin Choi
14:10	081	Understanding the effect mechanism of Mn/Ce co-doped on the integrated calcium looping and reverse water-gas shift reaction of CaO-based materials	Shandong University, China	Youhao Zhang
14:30	040	Commercialization of calcium looping for carbon-Intense industries: Status update on TRL 6-7 piloting activities	Sumitomo SHI FW Energia Oy, Finland	Martin Haaf
14:50	073	Comparative study of fluidized-bed and fixed-bed reaction for integrated CO_2 capture and in-situ methanation	Southeast University, China	Lingfeng Fan
15:10	029	Fluidized bed sorption-enhanced CO_2 methanation using zeolites as water sorbents	STEMS, Consiglio Nazionale delle Ricerche, Italy Università degli Studi di Napoli Federico II, Italy	F. Massa

Parallel Session Information - 2E

Monday, April 7

2E Chemical, Calcium, Solid Looping: Reforming & H_2 Production				15:50-17:20
Chairs: *TBD*				**Room Curling Dragon**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K15**	**Keynote: Design of oxygen carriers for chemical looping reforming**	**Kunming University of Science and Technology, China**	**Kongzhai Li**
16:20	030	Simulation of a sorption-enhanced steam methane reforming process in fluidized bed reactors by Aspen Plus	STEMS, Consiglio Nazionale delle Ricerche, Italy Università degli Studi di Napoli Federico II, Italy	A. Coppola
16:40	014	Chemical looping reforming of biomass for green hydrogen	Xi'an Jiaotong University, China	Zhiqiang Wu
17:00	066	Decomposition of CH_4 using modified Fe/CaO solid waste catalyst pellets in a fluidized bed for production of H_2 and carbon-based anode material	Shandong University, China	Zhiwei Chu

Parallel Session Information - 3E

Tuesday, April 8

3E Chemical, Calcium, Solid Looping: Engineering Scale-Up				08:30-10:10
Chairs: *TBD*				**Room Curling Dragon**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
08:30	**K16**	**Keynote: Oxygen carrier design for chemical looping combustion of solid fuel**	**Southeast University, China**	**Laihong Shen**
09:00	**K17**	**Keynote: Demonstration of 5MW chemical looping combustion and gasification with biomass pellet as fuel**	**Tsinghua University, China**	**Zhenshan Li**
09:30	140	TRL 7-8 demonstration of carbon capture for waste-to energy applications via calcium looping: engineering and design of a new pilot plant	Sumitomo SHI FW Energia Oy, Finland	Martin Haaf
09:50	044	Numerical design and simulation analysis of a 100 MWe biomass chemical-looping combustion system	Huazhong University of Science and Technology, China	Ao Li

Parallel Session Information - 4E

Tuesday, April 8

4E Chemical, Calcium, Solid Looping: Chemical Looping Combustion				**10:30-12:20**
Chairs: *TBD*				**Room Curling Dragon**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
10:30	**K18**	**Keynote: Impacts of wheat straw ash on performance of ilmenite in fluidized bed chemical looping combustion: reactivity, microstructure, attrition and agglomeration**	**Kunming University of Science and Technology, China**	**Dongfang Li**
11:00	031	New concept of fuel reactor for chemical looping combustion	Czestochowa University of Technology, Poland	T. Czakiert
11:20	144	In-situ formation of calcium manganite from natural manganese ore and lime in a 300 W dual-fluidized-bed reactor for chemical looping combustion	Chalmers University of Technology, Sweden	Xiaoyun Li
11:40	221	Performance of $CaMn_{0.625}Ti_{0.125}Fe_{0.125}Mg_{0.125}O_3$ in chemical looping combustion of biomass	Huazhong University of Science and Technology, China	Wen Luo
12:00	099	Fate of potassium and impact on corrosion in the air reactor in chemical looping combustion	Åbo Akademi University, Finland	E. Vainio

Parallel Session Information - 5E

Tuesday, April 8

5E Chemical, Calcium, Solid Looping: Solid Looping Process				13:30-15:30
Chairs: *TBD*				**Room Curling Dragon**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	024	Utilizing magnetite fines in fluidized beds for continuous hydrogen production	Chalmers University of Technology, Sweden	Ivana Staničić
13:50	028	Dolomites as CO_2 sorbents in fluidized bed sorption-enhanced gasification	STEMS, Consiglio Nazionale delle Ricerche, Italy Università degli Studi di Napoli Federico II, Italy	A. Coppola
14:10	035	Enhancing solid circulation in chemical looping processes based on cold-flow model tests	Technical University of Darmstadt, Germany	Philipp Mohn
14:30	041	Dynamic Monte Carlo reactor modeling of calcium looping with sorbent purge and utilization decay	The Catholic University of Korea, Republic of Korea	Jun Young Kim
14:50	178	Collaborative modelling of gas-solid reacting flow in a fuel reactor equipped with process controllers in chemical looping combustion/conversion	University of New South Wales, Australia	Guoyin Yu
15:10	192	Chemical looping air separation with $Sr_{0.8}Ca_{0.2}Fe_{0.9}Co_{0.1}O_{3-\delta}$ perovskite sorbent: packed bed modeling, verification, and optimization	Shanghai Jiao Tong University, China	Runxia Cai

Parallel Session Information - 6E

Tuesday, April 8

6E Chemical, Calcium, Solid Looping: Chemical Looping Gasification				15:50-17:40
Chairs: *TBD*				**Room Curling Dragon**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K19**	**Keynote: Chemical looping gasification of organic solid waste**	**Guangzhou Institute of Energy Conversion, Chinese Academy of Science, China**	**Zhen Huang**
16:20	070	Chemical looping gasification with microalgae: Intrinsic gasification kinetics of char derived from fast pyrolysis	Instituto de Carboquímica (ICB-CSIC), Spain	Daofeng Mei
16:40	068	Chemical-looping gasification of biomass in the Chalmers semi-commercial CFB using copper smelter slag as oxygen carrier	Chalmers University of Technology, Sweden	Carl Linderholm
17:00	217	A study on the oxygen exchange and migration mechanism of $NiFe_2O_4$ with H_2O during biomass char chemical looping gasification using ^{18}O isotope tracing method	Guangzhou Institute of Energy Conversion, China	Yan Lin
17:20	036	Modelling the chemical looping gasification of biomass for high-quality syngas production with CO_2 capture	Instituto de Carboquímica (ICB-CSIC), Spain	Alberto Abad

Parallel Session Information - 1F

Monday, April 7

1F Particulate Solids and Fluidization: Particle Behavior & Fluid Dynamics I				13:30-15:30
Chairs: *TBD*				**Room Crouching Tiger**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	026	Effect of fine particle on fluidization behavior of multi-walled carbon nanotube in a gas-solid fluidized bed	Korea National University of Transportation, Republic of Korea	Suyoung Kim
13:50	194	Growth characteristics and properties of TiO_2 films synthesized by fluidized bed atomic layer deposition	Southeast University, China	Liyuan Zhang
14:10	051	Hydrodynamic and thermal analysis of pistachio nut splitting in a fountain confined conical spouted bed	University of the Basque Country, Spain	Mikel Tellabide
14:30	149	CFD-DEM analysis of vibro-assisted fluidisation of fine particles	Nanjing Normal University, China	Shangyi Yin
14:50	072	Advanced cold flow model investigation of particle hydrodynamics and vertical distribution in a circulating fluidized bed	Technische Universität Wien, Austria	A. Konior
15:10	199	The effect of submicron particle layer properties on microparticle impact characteristics	Southeast University, China	Yuxing Wang

Parallel Session Information - 2F

Monday, April 7

2F Particulate Solids and Fluidization: Particle Behavior & Fluid Dynamics II				15:50-17:20
Chairs: *TBD*				**Room Crouching Tiger**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K20**	**Keynote: High-g fluidization in vortex chambers**	**Université catholique de Louvain, Belgium**	**Juray De Wilde**
16:20	018	Model for solid particle circulation rate through a J-type loop seal by circulating fluidized bed	Gunma University, Japan	Wanxuan Cai
16:40	002	Study of solid particles circulation in a fluidized bed	Tambov State Technical University, Russia	R.L. Isemin
17:00	141	Investigation and application of a novel electromagnetic inductance measurement method for characterizing gas-solid flow in CFB return leg	Huairou Laboratory, China	Weixin Niu

Parallel Session Information - 3F

Tuesday, April 8

3F Particulate Solids and Fluidization: Particle Behavior & Fluid Dynamics III				08:30-10:10
Chairs: *TBD*				**Room Crouching Tiger**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
08:30	196	Numerical simulation of nanoparticle fluidization-atomic layer deposition process at reactor scale	Southeast University, China	Zuyang Zhang
08:50	027	Entrainment characteristics of iron ore particles in a gas fluidized bed	Korea National University of Transportation, Republic of Korea	Min Ji Lee
09:10	159	Identification of the flow structure of dense phase in a gas-solid fluidized bed in bubbling fluidization regime with Geldart B+A particles	China University of Mining and Technology, China	Xuesen Chai
09:30	059	Agglomeration mechanisms of a quartz bed - Comparison of fuel and synthetic ash compounds in defluidization tests with a laboratory FBC	Åbo Akademi University, Finland	Sevonius Christoffer
09:50	033	Study on the agglomeration mechanism in the spray fluidized bed granulation process	Southeast University, China	Han Pu

Parallel Session Information - 4F

Tuesday, April 8

4F Particulate Solids and Fluidization: Wet Particle				10:30-12:20
Chairs: *TBD*				**Room Crouching Tiger**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
10:30	**K21**	**Keynote: Developing advanced models for understanding and improving spray fluidized coating process**	**Southeast University, China**	**Daoyin Liu**
11:00	182	Capillary bridge behavior between spheres: Insights from experiment and numerical simulation	Institute of Process Engineering, Chinese Academy of Sciences, China	Lei Yang
11:20	136	Experimental study on the interaction between liquids and particles in fluidized bed	Università degli Studi di Napoli Federico II, Italy	M. Troiano
11:40	158	Effects of fines and moisture on the incipient fluidization of the gas-solid fluidized bed for dry mineral separation	China University of Mining and Technology, China	Anyu Wang
12:00	207	Elucidating relationship between particle moisture and coating characteristics in a Wurster fluidized bed	Southeast University, China	Jinnan Guo

Parallel Session Information - 5F

Tuesday, April 8

5F Particulate Solids and Fluidization: Mixing & Segregation I				13:30-15:30
Chairs: *TBD*				**Room Crouching Tiger**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	085	Experimental investigation of the lateral gas mixing in a fluid-dynamically downscaled circulating fluidized bed furnace	Chalmers University of Technology, Sweden	Jing Shi
13:50	106	Numerical investigation on the secondary air jet characteristics in a circulating fluidized bed	Huairou Laboratory, China	Xudong Zhong
14:10	003	Evaluating solids mixing and segregation in binary fluidized beds using pressure signal analysis	Sharif University of Technology, Iran	N. Zeinalizadeh
14:30	083	Decarbonization of CFB boiler fly ash by using a pulsating fluidized bed	SINOPEC Maoming Petrochemical Co., China China University of Mining and Technology, China	Chen Xu
14:50	134	The impact of fluid-dynamical scaling on the vertical distribution of solids in binary fluidized beds	Chalmers University of Technology, Sweden	Azka Rizwana Siddiqui
15:10	181	Mixing/segregation characteristics and bubble behaviors of density-segregated binary particles in a pressurized fluidized bed	China University of Petroleum (East China), China	Xiaoli Zhu

Parallel Session Information - 6F

Tuesday, April 8

6F Particulate Solids and Fluidization: Mixing & Segregation II				15:50-17:40
Chairs: *TBD*				**Room Crouching Tiger**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K22**	**Keynote: Gas-solid fluidized dry separation of fine coal**	**China University of Mining and Technology, China**	**Chenlong Duan**
16:20	135	Segregation of large and lighter particles in a bubbling fluidized bed with solids cross flow	Chalmers University of Technology, Sweden	Azka Rizwana Siddiqui
16:40	118	Investigation on the fluidization dynamics in a Geldart D/B binary particle system with significant density disparity	Tsinghua University, China Huairou Laboratory, China	Weiqin Lu
17:00	153	Spatial and temporal analysis of particle segregation in a binary mixture within pseudo-2D fluidized beds	University of Seville, Spain	López Jessenia
17:20	150	Experimental analysis of the solids mixing in bubbling fluidized beds measured with magnetic solids tracing	Universidad de Castilla-La Mancha, Spain	Minerva Díaz-Heras

Parallel Session Information - 1G

Monday, April 7

1G Sustainable and Green Transition Technologies I				13:30-15:30
Chairs: *TBD*				**Room Golden Sweet Osmanthus**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	212	Determination of optimal NH_3 cofiring condition in fluidized bed reactor for NOx reduction: low operating load and air staging ratio	Pusan National University, Republic of Korea	Jae-Sung Kim
13:50	209	Experimental study on catalytic precracking of ammonia based on hydrogen-ammonia mixed combustion	Southeast University, China	Manman Luo
14:10	197	An experimental investigation into the characteristics of ammonia oxidation and behaviors of NO_x emission in a bubbling fluidized bed	Chongqing University, China	Jia Cao
14:30	176	Application of wet fluidized bed torrefaction to convert potato peels waste into valuable fuel and fertilizer	Tambov State Technical University, Russia	R.L. Isemin
14:50	069	CPFD modeling of air-steam gasification of brewer's spent grains in a circulating fluidized bed	Qingdao University, China	Huawei Jiang
15:10	189	Autothermal technology demonstration of phosphogypsum thermal decomposition pilot simulation system	Southeast University, China	Pengxing Yuan

Parallel Session Information - 2G

Monday, April 7

2G Sustainable and Green Transition Technologies II				15:50-17:20
Chairs: *TBD*				**Room Golden Sweet Osmanthus**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K23**	**Keynote: Thermochemical conversion of hydrocarbons based on fluidized bed technologies**	**Korea Institue of Industrial Technology, Republic of Korea**	**Uendo Lee**
16:20	056	Study on energy conversion performance of anaerobic microbial fluidized bed hydrogen-electricity co-generation system	North China Electric Power University, China	Yangfan Song
16:40	137	Process simulation of biohydrogen production in fluidized bed via inline and offline steam reforming of bio-oil	Università degli Studi di Napoli Federico II, Italy	E. Mulu Fetene
17:00	143	Conversion of biogenic residues via dual fluidized bed steam gasification in 100 kW and 1 MW scale	Technische Universität Wien, Austria	David Kadlez

Parallel Session Information - 3G

Tuesday, April 8

3G Sustainable and Green Transition Technologies III				08:30-10:10
Chairs: *TBD*				**Room Golden Sweet Osmanthus**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
08:30	**K24**	**Keynote: Seen, known and thoughts through ~40 years CFB researches** (08:30-09:00)	**Zhejiang University, China**	**Leming Cheng**
09:10	008	Challenges in fluidization technology	Delft University of Technology, The Netherlands	J. Ruud van Ommen
09:30	166	Experimental and numerical investigation on convective heat transfer coefficient of vertical plates in a fluidized bed	Tsinghua University, China	Wenhan Li
09:50	122	Directly irradiated fluidized bed autothermal reactor: Experimental characterization and operation cycle	STEMS, Consiglio Nazionale delle Ricerche, Italy Università degli Studi di Napoli Federico II, Italy	S. Padula

Parallel Session Information - 4G

Tuesday, April 8

4G Sustainable and Green Transition Technologies IV				10:30-12:20
Chairs: *TBD*				**Room Golden Sweet Osmanthus**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
10:30	**K25**	**Keynote: Advancing thermochemical conversion in fluidized beds for resource efficiency and climate action**	**Chalmers University of Technology, Sweden**	**David Pallarès**
11:00	001	Closing the metal fuel cycle: Enhanced iron oxide powder reduction via fluidized bed operations across different regimes	Eindhoven University of Technology, The Netherlands	N.C. Stevens
11:20	025	Hydrogenation of siderite for zero-carbon iron fuel production and iron combustion via chemical looping in fluidized bed	Nanjing Normal University, China	Tao Song
11:40	116	Calcium looping in directly irradiated fluidized beds with CaO/SiC mixtures for improved absorption of solar energy	Università degli Studi di Napoli Federico II, Italy	Francesca Di Lauro
12:00	075	Hydrogen-based, low-temperature reduction of iron oxide in a bubbling fluidized bed	Chalmers University of Technology, Sweden	Victor Purnomo

Parallel Session Information - 5G

Tuesday, April 8

5G Sustainable and Green Transition Technologies V				13:30-15:30
Chairs: *TBD*				**Room Golden Sweet Osmanthus**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
13:30	218	Experimental research on emission characteristics of biomass NH_3 co-firing in a bubbling fluidized bed reactor	Pusan National University, Republic of Korea Kunming University of Science and Technology, China	Haotian Ma
13:50	057	The study and application of comprehensive utilization of biomass resources based on biogas technique and heat and power cogeneration system	University of Science and Technology Beijing, China	Junping Gu
14:10	004	Helium-based cold model simulations for green hydrogen iron ore reduction studies	Technische Universität Wien, Austria	Valentina Nigitz
14:30	046	Research progress in the treatment of pollutants in sintering flue gas by combustion technology	Henan Polytechnic University, China	Jinjiang Zhao
14:50	009	Scalable production of nanostructured materials for energy and health applications using gas phase deposition	Delft University of Technology, The Netherlands	J. Ruud van Ommen
15:10	079	Investigation of CO_2 capture performance and influence mechanism of K_2CO_3@ZrO_2 composite DAC adsorbent	Southeast University, China	Zhuang Qi

Parallel Session Information - 6G

Tuesday, April 8

6G Chemical Reactions				15:50-17:40
Chairs: *TBD*				**Room Golden Sweet Osmanthus**
Time	**No.**	**Title**	**Affiliation**	**Presenter**
15:50	**K26**	**Keynote: Flash calcination of magnesite in transport bed: Reaction characterization and industrial application**	**Shenyang University of Chemical Technology, China**	**Zhennan Han**
16:20	157	Measuring intrinsic reaction kinetics using bubbling fluidized bed reactors	Université catholique de Louvain, Belgium	Juray De Wilde
16:40	097	Igniting hydrogen bubbles: unveiling combustion dynamics in a fluidized bed of silica sand	University of Cambridge, UK	Yujia Wang
17:00	108	Experimental and simulation study on efficient Denitration of SNCR based on ammonia pre-activation	Huairou Laboratory, China Taiyuan University of Technology, China	Chen Luo
17:20	089	Impact of operating conditions and biochar particle size distributionon methane cracking rates in a fluidized bed reactor	SINTEF Industry, Norway	N.I. Canabarro