SEPTEMBER
27 TO 30, 2021

ISGA 7

ONLINE
CONFERENCE

7TH INTERNATIONAL SYMPOSIUM ON GASIFICATION AND ITS APPLICATIONS

MONDAY 27TH SEPTEMBER 2021

The times mentioned below are Paris time

> 10:40 – 10:50 Introduction – **Guanyi CHEN - Tianjin University - China**

> 10:50 – 11:00 ISGA 7 Organization – **Guillain MAUVIEL - Université de Lorraine/CNRS - LRGP, Nancy, France**

> 11:00 – 13:00

Fluidized bed gasification

- Two-stage Fluidized Bed Process Leading to Breakthrough of Tar Problem for Easy-to-scale-up Biomass Gasification *(Plenary)* - **Guangwen XU - Shenyang University of Chemical Technology, China**
- Innov'energy: R&d Technological Platform For Energy Valorisation Of Different Fuels In Fluidised Bed Technology (Oriented Towards Srf Gasification Process) *(Short comm.)*- **Kevin COUZAN - Leroux Et Lotz Technologies , Eybens , France**
- Wood gasification in a semi-industrial bubbling fluidized bed gasifier *(Short comm.)* – **Matthieu DEBAL - Université de Lorraine - LERMAB, Épinal, France**
- Iron-doped Olivine And Char For In-bed Elimination Of Tars In An Air-blown Fluidized Bed Gasifier Coupled With Oxidative Hot Gas Filtration *(Short comm.)* - **Miguel RUIZ-BAILON - Université de Lorraine/CNRS - LRGP, Nancy, France**
- Steam-oxygen Gasification Of Refuse Derived Fuel In Fluidized Beds: Modelling And Pilot Plant Testing *(Short comm.)* - **Alex SEBASTIANI - University College London (UCL), London, United Kingdom**
- Fluidized Bed Gasification Of Plastic Waste: Preliminary Experimental Results *(Short comm.)* – **Gabriele CALÌ - Sotacarbo, Carbonia, Italy**

Plenary : 20 min Keynotes 15min Short comm. 10 min

MONDAY 27TH SEPTEMBER 2021

The times mentioned below are Paris time

> 14:30 – 16:30

Fixed bed gasification

- An outlook of Biomass Conversion Technologies in Malaysia: Challenges and Opportunities *(Plenary)* - **Hon Loong LAM - University of Nottingham Malaysia Campus, Malaysia**
- Cfd Modelling Of Biomass Pyrolysis In A Fixed Bed Reactor Using An Eulerian-eulerian Multiphase Approach *(Short comm.)*- **Michael GREENCORN - Systems, Power, and Energy Research Division, James Watt School of Engineering, University of Glasgow, Glasgow, United Kingdom**
- Effect of packing property on gasification reactivity of bio-coal in a packed-bed reactor *(Short comm.)* **Aekjuthon PHOUNGLAMCHEIK - Division of Energy Science, Luleå University of Technology, Luleå, Sweden**
- Modeling of Shrinking and Non-shrinking Biomass Particles in the Fixed Bed Downdraft Gasifier *(Keynote.)* - **Ashish CHAURASIA - Visvesvaraya National Institute of Technology, Nagpur, India**
- Simulation Of Steam Gasification Of Rice Husk In Updraft Gasifier *(Short comm.)* - **Dinh Tuan PHAN - Hochiminh City University of Natural Resources and Environment, Hochiminh City, Viet Nam**
- Model Development For The Gasification Of Heteregenous Waste In A Fixed Bed Reactor *(Short comm.)* – **Janett RUIZ - Univ Lyon, INSA Lyon, CNRS, Université Lyon 1, CETHIL, UMR5008, Villeurbanne, France**
- A standardised gasification system and methodology for evaluating the performance of different feedstocks, control algorithms and tar detection systems *(Keynote)* - **Ian WATSON - University of Glasgow, Glasgow, United Kingdom**
- Improving the quality of syngas from a small-scale fixed-bed gasification genset *(Short comm.)* **Laurent VAN DE STEENE - CIRAD, Montpellier, France**

Plenary : 20 min Keynotes 15min Short comm. 10 min

TUESDAY 28TH SEPTEMBER 2021

The times mentioned below are Paris time

> 11:00 – 13:00

Dual Fluidized bed gasification

- Solar gasification of biomass using dual fluidized bed reactors *(Plenary)* - **Alberto GOMEZ-BAREA - Universidad Sevilla, Sevilla, Spain**
- Chemicals And Fuel From Gasification Of Biomass And Waste *(Keynote)*- **Berend VREUGDENHIL - TNO, Petten, Netherlands**
- Catalytic Biomass Gasification In Decoupled Dual Loop Gasifier For Cleaner Hydrogen-rich Gas Production And Tar Abatement *(Short comm.)* **Muhammad Mahmood KHAN - Dalian University of Technology, Dalian, China**
- Innovative Pilot Scale Dual Bubbling Fluidized Bed Gasifier (100 kWth): First Experimental Results *(Keynote)* - **Elisa SAVUTO - University of L'Aquila, L'Aquila, Italy**
- Effect of operating conditions on ash reactivity of biomass mixtures inside the combustion chamber of a dual fluidized bed *(Short comm.)* - **Emile ATALLAH - CEA, Grenoble, Grenoble, France**
- Steam Gasification Of Waste In A Bubbling Fluidized Bed Reactor To Produce A Syngas Rich In Hydrogen And Light Hydrocarbons *(Short comm.)* - **Thomas ESTEVES - INP/LGC, Toulouse, France**

Plenary : 20 min Keynotes 15min Short comm. 10 min

TUESDAY 28TH SEPTEMBER 2021

The times mentioned below are Paris time

> 14:30 – 16:30

Char production & conversion

- Pyrophoricity Of K-impregnated Biochar After Pyrolytic Treatment *(Keynote)* - **Agnieszka KORUS - Silesian University of Technology, Gliwice, Poland**
- In-situ Study On Structure Evolution And Gasification Reactivity Of Biomass Char With K And Ca Catalysts At Carbon Dioxide Atmosphere *(Short comm.)*- **Xingjun WANG - ECUST, Shanghai, China**
- Release of alkali metals during CO2 gasification of biomass char *(Short comm.)* **Yaxin GE - Department of Chemistry and Molecular Biology, University of Gothenburg, Gothenburg, Sweden**
- Effect of pyrolysis conditions and feedstocks on char gasification reactivity *(Short comm.)* - **Aekjuthon PHOUNGLAMCHEIK - Division of Energy Science, Luleå University of Technology, Luleå, Sweden**
- Study Of Steam Gasification Of Tire Char With The Use Of Catalysts Based On Biomass Ashes *(Short comm.)* - **Przemyslaw GRZYWACZ - AGH University of Science and Technology in Krakow, Kraków, Poland**
- Characterisation of spelt husk briquette and pellet properties as feedstocks for renewable energy *(Short comm.)* - **Abubakar HALIDU - Newcastle University, Newcastle upon Tyne, United Kingdom**
- Gasification Performance Of Pristine And Thermal Treated Greek Lignite Fuels: The Effect Of Gasifying Agent And Pyrolysis Protocols *(Short comm.)* - **Athnasios LAMPROPOULOS - UOWM, Kozani, Greece**
- The use of boron-based plasticizers for the prevention of char agglomerating and the preparation of boron-doped carbon microspheres during lignin pyrolysis *(Short comm.)* - **Zhiguo DONG - State Key Laboratory of Coal Combustion, School of Energy and Power Engineering, Huazhong University of Science and Technology, Wuhan, China**

Plenary : 20 min Keynotes 15min Short comm. 10 min

WEDNESDAY 29TH SEPTEMBER 2021

The times mentioned below are Paris time

> 11:00 – 13:00

Syngas conversion

- Syngas Biomethanation: an alternative way to energy storage *(Plenary)* - **Hariklia GAVALA - DTU, Kongens Lyngby, Denmark**
- Syngas-biomethanation in pressurized CSTR: gradual increase in syngas flow rate leads to high methane productivity *(Short comm.)*- **Julie FIGUERAS - Université de Lyon, INSA Lyon, Lyon, France**
- Utilization of Biogenic Residues in a Biorefinery Concept via Entrained Flow Gasification with Coupled Gas Fermentation for the Production of Basic Chemicals *(Short comm.)* **Philipp LEUTER - Institute for Energy Systems - TU Munich, Garching b. München, Germany**
- Clean syngas and hydrogen co-production combining gasification and chemical looping hydrogen process *(Keynote)* - **Benedetta DE CAPRARIIS - Sapienza University of Rome, Department of Chemical Engineering, Rome, Italy**
- Demonstration-scale Syngas Methanation In A Catalytic Fluidized Bed: Effect Of Feedstock And Syngas Quality On Methanation Efficiency *(Short comm.)* - **Maxime HERVY - Engie Lab CRIGEN, Lab Biogas Biomass and Waste, Stains, France**
- Hydrogen from biomass gasification and potential applications: challenges and opportunities. *(Short comm.)* - **Paula BLANCO-SANCHEZ - Aston University, Energy & Bioproducts Research Institute (EBRI), Birmingham, United Kingdom**

Plenary : 20 min Keynotes 15min Short comm. 10 min

WEDNESDAY 29TH SEPTEMBER 2021

The times mentioned below are Paris time

> 14:30 – 16:30

Gasification fundamentals

- Gasification for Conversion of Waste to Energy and Resource *(Plenary)* - **Chi-Hwa WANG - National University of Singapore, Singapore**
- Analysis Of Biogas And Bio-tar Derived From The Pyrolysis Of Oak Wood Chips At Different Temperatures *(Short comm.)*- **Mira ABOU RJEILY - Institut de Thermique, Mécanique, Matériaux (ITheMM), Reims, France**
- Synergistic effect from co-thermal conversion of low-rank coal and biomass: Products distribution, kinetic characteristics of co-pyrolysis *(Keynote)* - **Zhiqiang WU - School of Chemical Engineering and Technology, Xi'an Jiaotong University, Xi'an, China**
- Potential Of Coal Bottom Ash As Catalyst In Catalytic Gasification System *(Short comm.)* - **Patrick DAVID ONOJA - Department of Chemical Engineering, HICoE: Center Biofuel & Biochemical Research, Institute of Sustainable Building, Universiti Teknologi PETRONAS, Perak, Malaysia**
- Relationship Between Properties Of Feedstocks And Process Slag Samples From BGL Fixed-bed Gasification Of Waste Materials *(Keynote)* - **Markus REINMÖLLER - TU Bergakademie Freiberg, Freiberg, Germany**
- Effects of Atmospheric Gas and Temperature on Behavior of Ash Particles in Coke Lump *(Short comm.)* - **Yasuaki UEKI , Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya, Japan**
- Utilization of ash for upgrading biomass gasification: Mechanism study *(Short comm.)* - **Qianqian GUO, Tianjin University, Tianjin, China**

Plenary : 20 min Keynotes 15min Short comm. 10 min

THURSDAY 30TH SEPTEMBER 2021

The times mentioned below are Paris time

> 10:15 – 10:50 ISGA Committee meeting

> 11:00 – 13:00 **Syngas purification**

- Catalytic abatment of tar: is this lock released? *(Plenary)* – **Claire COURSON- ICPEES Strasbourg, France**
- Reaction model of in-situ coal tar reforming with char considering pore plugging depending on operation pressure *(Short comm.)*- **Sou HOSOKAI - National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan**
- Reforming of pyrolysis gases: investigation of soot formation mechanisms through experiments and detailed modelling *(Short comm.)* - **Séverin Tchini TANHOH - Centre RAPSODEE, CNRS, IMT Mines Albi, Albi, France**
- Experimental And Modelling Investigaton Of Partial Oxidation Cracking Of Gasification Tars *(Short comm.)* – **Rémi DEMOL - Université de Lorraine/CNRS – LRGP, Nancy, France**
- Biomass Filtration Model on Rice Husk Gasification Tar Removal *(Short comm.)* - **Sarah Islamiati PERTIWI - Department of Mechanical Engineering, Universitas Indonesia, Kampus UI Depok, Indonesia**
- Effect of SO2 on selenium retention by CaO at high temperature *(Short comm.)* - **Mengzhu YU - Southeast University, Nanjing, China**

Plenary : 20 min Keynotes 15min Short comm. 10 min

THURSDAY 30TH SEPTEMBER 2021

The times mentioned below are Paris time

> 14:30 – 16:30

Beyond gasification

- The role of biobased economy, negative emissions and gasification routes for reaching the 1,5°C target *(Plenary)* - **André P.C. FAAIJ - TNO, Petten, Netherlands**
- Proposal of poly-generation system utilizing various fuels for carbon recycling *(Short comm.)*- **Satoshi UMEMOTO- Central research institute of electric power industry, Yokosuka, Japan**

Entrained flow gasification

- Application Update of OMB CWS Gasification Process *(Short comm.)* - **Guangsuo YU - East China University of Science and Technology, Shanghai, China**
- The Bioliq® Entrained-flow Gasifier - Developments In Optimizing The Central Process Unit In A Sustainable Biomass-to-liquid Process Chain *(Short comm.)* - **Mark EBERHARD - Karlsruhe Institute for Technology, Karlsruhe, Germany**
- Influence Of Gasification Parameters On Nitrogen Species And Tars In Oxygen-blown Entrained Flow Gasification Of Green Cut And Leaves *(Keynote)* - **Philipp JOHNE - Technical University of Munich - Chair of Energy Systems, Garching, Germany**

> 16:40 – 16:55 Conclusion & Awards

Plenary : 20 min Keynotes 15min Short comm. 10 min