



**Preliminary Programme**  
**Infub-12 Online/Live**  
**10<sup>th</sup> -11<sup>th</sup> November**

**Tuesday, 10<sup>th</sup> of November**

**9:00 - 9:30**      **Welcome to Participants - Organizing Committee**  
**A Tribute to Prof. Mário Costa**

**Viktor Scherer**  
 Ruhr Universität Bochum, Germany

**Neil Fricker**  
 University of South Wales, UK

**Albino Reis**  
 Cenertec – Centro de Energia e Tecnologia, Portugal

**9:30 - 11:00**      **Keynote Presentations**

**A RENEWED AGENDA FOR RESEARCH AND INNOVATION IN EUROPE**  
 Maria da Graça Carvalho  
 Member of the European Parliament, Portugal

**CHALLENGES AND DEVELOPMENT NEEDS IN FLUIDIZED BED TECHNOLOGY**  
 Edgardo Coda Zabetta  
 Sumitomo SHI FW, Finland

**11:00 - 12:00**      **Parallel sessions**

<b>Combustion &amp; Heat Transfer</b>	<b>Alternative Fuels</b>	<b>Modelling</b>
<b>Oxygen-enriched Combustion Technology using Self-induced Oscillation Phenomenon to Uniformly Heat a Wide Range in Industrial Furnaces</b> M. Yamaguchi, T. Saito, Y. Yamamoto & Y. Hagihara Taiyo Nippon Sanso Corporation (Japan)	<b>Pressurized steam pyrolysis of grape residues for production of valuable liquid hydrocarbons</b> F. Miccio, A. Natali Murri, E. Papa, E. Landi & M. Minelli University of Bologna (Italy)	<b>Numerical Analysis of the Transient Heating Characteristics of a Slab in a Re-Heat Furnace</b> Z. Ahmedab, I. T'Jollynab, S. Lecompteab, T. De Raadc & M. De Paepeab Ghent University, ArcelorMittal Gent & FlandersMake@UGent (Belgium)

<b>Degassing and Stability Behavior of Oxide Heat Insulation Materials in Vacuum Furnaces</b> R. Arnold, M. Gilbert, R. Behrend & H. Krause Technische Universität Bergakademie Freiberg (Germany)	<b>Carbonization of grape pomace</b> A. F. Ferreira & M. Costa Instituto Superior Técnico, Universidade de Lisboa, (Portugal)	<b>Modelling radiative heat transfer in an industrial furnace using the lattice Boltzmann method</b> R. Prieler, P. Burian, M. Landl, C. Schluckner, C. Hochenauer Graz University of Technology (Austria)
<b>Energy Efficient Coil Coating Process - ECCO</b> M. Schneider, P. Weinbrecht, C. Wieland, C. Weis & D. Trimis Karlsruhe Institute of Technology (Germany)	<b>Valorisation of plastic wastes by pyrolysis for energy production</b> J.-B. Michel, M. Simeoni & O. Lepez Race for Water Foundation & ETIA S.A.S. Carrefour Jean Monnet (Switzerland/ France)	<b>Large Eddy Simulation of Reactive Flow on the Fire Side of a Steam Cracking Furnace</b> S. Nadakkal Appukuttan, E. Riber, B. Cuenot, T. Gilles CERFACS & John Zink Hamworthy Combustion (France/ Luxembourg)

**12:00 - 12:45 Break**

**12:45 - 14:15 Parallel sessions**

<b>Combustion &amp; Heat Transfer</b>	<b>Green challenges and renewable future</b>	<b>Modelling</b>
<b>Experimental and numerical investigations of a high-power density sulphur burner</b> M. Fedoryk, F. Zhang, H. Heidarifatasmi, N. Sebbar, S. Harth, D. Trimis & H. Bockhorn Karlsruhe Institute of Technology (Germany)	<b>Challenges for the Future Combustion of Green Fuels</b> J.G. Wünnig WS Wärmeprozessstechnik GmbH (Germany)	<b>Simulation of a turbulent combustion and structural mechanics in radiant tube burner using OpenFOAM</b> Z. Raonic, D. Nikolaenko, C. Spijker, H. Raupenstrauch Montanuniversitaet Leoben (Austria)
<b>Modern concepts for sensor-based process optimization of waste-fired power plants</b> F. Graube-Kühne, T. Kehr, S. Grahl & M. Beckmann Technische Universität Dresden (Germany)	<b>Thermodynamic and lifecycle analysis of a CO<sub>2</sub>-based methanol synthesis</b> M. Dierks, F. Möllenbruck, G. Oeljeklaus & K. Görner University of Duisburg-Essen (Germany)	<b>CFD modeling: a powerful tool for high efficiency burner design</b> A. Saponaro, O. Senneca, F. Cerciello, D.J. Brand, M. Torresi, F. Cesareo, M. Valenzano, S. Siena, G. Rago, G. Rossiello, G. Volpi, M. Penati, R. Dadduzio, T. Giani, M. Rogora, L. Fortunato & V. Panebianco Centro Combustione Ambiente S.p.A, ITEA S.p.A, Istituto di Ricerche sulla Combustione (IRC), University, Politecnico di Bari, AC BOILERS S.p.A (Italy/ South Africa)

<p><b>Thermal performance of a domestic boiler burning briquettes made with agricultural wastes</b> B. Braga, V. Ferreira, A. Sanches &amp; C. Pinho DEMEC-FEUP, INEGI &amp; CEFT-FEUP (Portugal)</p>	<p><b>Bioefficiency: The Challenging Way Towards the Next Generation of Biomass-fired Combined Heat and Power Plants</b> H. Spliethoff, T. de Riese, L. Hansen, R. Nowak Delgado, S. Fendt Technische Universität München &amp; Bayerisches Zentrum für Angewandte Energieforschung e.V. (Germany)</p>	<p><b>Large Eddy Simulation of pulverized coal combustion under oxy atmospheres using tabulated chemistry</b> H. Nicolai, A. Samim Doost, F. di Mare, C. Hasse &amp; J. Janicka Technische Universität Darmstadt &amp; Ruhr-Universität Bochum (Germany)</p>
<p><b>Single droplet ignition and combustion of jet-A1, hydroprocessed vegetable oil and their blends in a drop tube furnace</b> G. Pacheco, A. Silva &amp; M. Costa Instituto Superior Técnico, Universidade de Lisboa &amp; Aerog-LAETA, Universidade da Beira Interior (Portugal)</p>	<p><b>Negative CO2 Emission Technologies – A New Trend in Energy Research?</b> T. Pröll University of Natural Resources and Life Sciences (Austria)</p>	<p><b>Impact of the charging strategy, the cohesive zone and a varying blast volume flow on the conditions in the hearth: Transient DEM-CFD simulations of an industrial blast furnace</b> H. Merten, F. Bambauer, S. Wirtz, V. Scherer, H. Bartusch &amp; R. Lin Ruhr-University Bochum, Bochum, VDEh-Betriebsforschungsinstitut, Department Process Optimisation Iron and Steel Making &amp; AG der Dillinger Hüttenwerke (Germany)</p>

## Wednesday, 11<sup>th</sup> of November

9:00 – 11:15 Keynote Presentations

**CHALLENGES AND DEVELOPMENTS IN THE CEMENT INDUSTRY - PROCESS DEVELOPMENTS FOR CO-PROCESSING OF WASTE AND CONTROL OF EMISSIONS**

Lars Skaarup Jensen  
FLSmidth, Denmark

**USE OF HYDROGEN AS A FUEL IN INDUSTRIAL FURNACES**

Joachim von Schéele  
The Linde Group, Shanghai

**PHOSPHORUS - A CRITICAL ELEMENT AND A CHALLENGE FOR THERMO-PROCESSING TECHNOLOGY**

Harald Raupenstrauch  
Montanuniversitaet Leoben, Austria

**11:30 - 12:30 Parallel Sessions**

<b>Alternative Fuels</b>	<b>Monitoring/ Modelling</b>	<b>Gasification, Combustion and product treatment</b>
<p><b>Tail biogas flame stabilization by assistance of thermal plasma reformer</b>                      N. Striūgas, A. Tamošiūnas, L. Marcinauskas, R. Paulauskas, K. Zakarauskas &amp; R. Skvorčinskiė                      Lithuanian Energy Institute &amp; Plasma Processing Laboratory (Lithuania)</p>	<p><b>In-furnace thermal imaging for process optimisation and NOx reduction</b>                      Christopher Leonard and Neil Simpson                      Ametek Land &amp; Simpson Combustion</p>	<p><b>Influence of steam addition on biomass gasification in a drop tube furnace</b>                      T. Rio, R. Ferreira &amp; M. Costa                      Instituto Superior Técnico, Universidade de Lisboa (Portugal)</p>
<p><b>Effects of microwaves on burning velocity and exhaust gas composition of laminar premixed propane flames</b>                      S. Eckart, R. Behrend, E. Collins &amp; H. Krause                      TU Bergakademie Freiberg &amp; Columbia University (Germany/ USA)</p>	<p><b>Temperature Measurements by Means of SO2 Spectra and Differential Optical Absorption Spectroscopy in Two Full-Scale Boilers</b>                      T. Leffler, S. Badiel &amp; P. Kallner                      Vattenfall AB (Sweden)</p>	<p><b>Effects of CO2-H2O dilution on non-premixed turbulent oxygen enriched flames in a swirl burner</b>                      T. Boushaki, H. Zaidaoui, J.C. Sautet, C. Chauveau                      University of Orleans &amp; Normandie University (France)</p>
<p><b>Experimental study of turbulent Bluff-Body flames stability by simultaneous high speed flame imaging and Particle Image Velocimetry</b>                      N. Valdez, C. Lacour, B. Lecordier, A. Cessou, D. Honore                      Normandie Univ (France)</p>	<p><b>Comparison of the Dynamic Behaviour between Bubbling and Circulating Fluidized Bed Combustors</b>                      G. Martinez Castilla, R. M. Montañés, D. Pallarès &amp; F. Johnsson                      Chalmers University of Technology (Sweden)</p>	<p><b>Coupled Computational Fluid Dynamics and Discrete Element Method modelling of shaft furnace, including nitrogen emissions</b>                      C. Spijker, R. W. Pollhammer &amp; H. Raupenstrauch                      Montanuniversitaet Leoben &amp; K1-MET GmbH (Austria)</p>

**12:30 – 13:15 Break**

**13:15 – 14:15 Parallel sessions**

<b>Pollutant emissions</b>	<b>Modelling</b>
<p><b>Reduction of thermal and fuel NO-formation with Multi-Stage Flameless Oxidation</b>                      N. Schmitz, L. Giesler, E. Cresci, J.G. Wuenning &amp; H.Pfeifer                      RWTH Aachen University &amp; WS Waermeprozessetechnik GmbH (Germany)</p>	<p><b>A two-dimensional pyrolysis model for thermally thick particles</b>                      Q. N. Hoang, M. Vanierschot, T. Croymans, R. Pittoors &amp; J. Van Caneghem                      Group T Leuven campus, KU Leuven &amp; Keppel Seghers Belgium NV (Belgium)</p>
<p><b>Issues relating to the Combustion of High Asphaltene Heavy Fuel Oils.</b>                      A.R. Lea-Langton, K.D. Bartle, F.A. Atiku, J.M. Jones &amp; A. Williams                      University of Manchester &amp; University of Leeds (UK)</p>	<p><b>Thermal process for energy recovery from Waste Electronic and Electrical Equipment under the premise of bromine recycling</b>                      M. Dunker, A. Hiller &amp; M. Beckmann                      Technische Universität Dresden (Germany)</p>

<p><b>Influence of operation mode of a drop-feed-pellet domestic boiler on gaseous and particulate emissions</b>  A. Martinez, C. Lacour, J. Yon &amp; A. Coppalle  Normandie University (France)</p>	<p><b>Novel heat recovery system for ceramic furnaces using high-temperature phase change materials and integration based on multicriteria analysis development</b>  P. Royo, L. Acevedo, A. J. Arnal, M. Diaz-Ramírez, T. García-Armingol, V. J. Ferreira, G. Ferreira &amp; A. M. López-Sabirón  Research Centre for Energy Resources and Consumption (CIRCE) &amp; CIRCE Institute (Spain)</p>
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**14:15 – 14:30 Closing session - Organizing Committee**

**Viktor Scherer**

Ruhr Universität Bochum, Germany

**Neil Fricker**

University of South Wales, UK

**Albino Reis**

Cenertec – Centro de Energia e Tecnologia, Portugal