

# Conference Agenda

## Session Overview

Date: Tuesday, 07/Apr/2026

3:00pm - 6:00pm	Reg: REGISTRATION
6:00pm - 6:30pm	Open: OPENING SESSION   WELCOME ADDRESS
6:40pm - 7:30pm	KN1: KEYNOTE LECTURE I Harald Raupenstrauch - Technical University of Leoben, Austria "New materials demand new safety requirements"
8:00pm	WELD: WELCOME DINNER

<p>8:30am - 9:20am</p>	<p><b>KN2: KEYNOTE LECTURE II</b> Jesper Ejenstam - Kanthal, Sweden "Large-scale electrification and industrial heating; opportunities and challenges"</p>		
<p>9:25am - 10:45am</p>	<p><b>1. AMM 1: Ammonia 1</b></p> <p><b>Development of global reaction mechanism of ammonia for CFD simulations on cofiring with pulverized coal</b> Woosuk Kang, Changkook Ryu School of Mechanical Engineering, Sungkyunkwan University, Suwon 16419, Republic of Korea</p> <p><b>Investigation of Laminar Burning Velocity in Ammonia-Based Fuel Mixtures with Biogas and Hydrogen Addition</b> Michael Wagner, Arkajit Ghosh, Hartmut Krause, Sven Eckart Institute of Thermal Engineering, TU Bergakademie Freiberg, Germany</p> <p><b>Acceleration of ammonia combustion by hydrogen radical induced decomposition: Insights into the performance and application of hydrogen-ammonia coupled burners</b> Jie Cui<sup>1,2</sup>, Xiu Yang<sup>1</sup>, Rui Ma<sup>1,3</sup>, Youning Xu<sup>1</sup>, Honglei Zhao<sup>1</sup>, Manfred Wirsum<sup>2</sup>, Shuo Yang<sup>1</sup>, Honggang Pan<sup>1</sup>, Jianhua Qi<sup>4</sup> 1: Shenyang Institute of Engineering, China; 2: RWTH Aachen University, Germany; 3: Shenyang Hydrogen Clean Energy Technology Co., Ltd, China; 4: Liaoyang Guocheng Thermal Power Co., Ltd, China</p> <p><b>Experimental Investigation of Ammonia-Syngas Plasma-Assisted Combustion</b> Adolfas Jančauskas, Rolandas Paulauskas, Ernest Bykov, Kęstutis Zakarauskas Lithuanian Energy Institute, Lithuania</p>	<p><b>2. MET 1: Metals 1</b></p> <p><b>Investigation of the oxidation behavior of metal fuel particles in oxy-fuel atmospheres using emission spectroscopy</b> Daria Golab, David Tarlinski, Martin Schiemann Institute of Energy Plant Technology, Ruhr-University Bochum, Bochum, Germany</p> <p><b>Oxidation of Iron Particles in a Low-Temperature Fluidized Bed: Towards Sustainable Metal Fuel Combustion</b> Julie ROUTURIER, Cornelius SCHONNENBECK, Jean-François BRIHLAC, Valérie TSCHAMBER Université de Haute-Alsace, LGRE UR 2334, F-68100 Mulhouse, France</p> <p><b>Burning Iron powder in a coal combustion chamber</b> Rizwan Mehmood<sup>1</sup>, Sven Mehlhose<sup>1</sup>, Quentin Fradet<sup>1</sup>, Steffen Grusla<sup>2</sup>, Tobias Zschunke<sup>2</sup>, Uwe Riedel<sup>1</sup> 1: German Aerospace Center (DLR), Institute of Low-Carbon Industrial Processes, Germany; 2: Zittau/Görlitz University of Applied Sciences, Institute of Process Engineering, Process Automation and Metrology, Germany</p> <p><b>Large-Eddy Simulation of Swirl-Stabilized Iron Dust Flames: Effects of Oxygen Concentration</b> Antje Vahl, Pascal Steffens, Hendrik Nicolai, Christian Hasse Technical University of Darmstadt, Germany</p>	<p><b>3. ELE 1: Electrification 1</b></p> <p><b>Heat transfer conditions in a plasma-heated rotary kiln and the effect of coating layer formation</b> Alice Fakt<sup>1</sup>, Ibrahim Qasim<sup>1</sup>, Saumitra Mishra<sup>1</sup>, Adrian Gunnarsson<sup>1</sup>, Fredrik Normann<sup>1</sup>, Klas Andersson<sup>1</sup>, Bodil Wilhelmsson<sup>2</sup> 1: Chalmers University of Technology, Sweden; 2: Heidelberg Materials Cement Sverige AB</p> <p><b>Development and Application of Plasma-Based Heating Technologies in High-Temperature Industrial Furnaces</b> Sven Eckart<sup>1,2</sup>, Ralph Behrend<sup>1</sup>, Ratzmann Tobias<sup>1</sup>, Liebsch Dominik<sup>1</sup>, Hartmut Krause<sup>1</sup> 1: TU Bergakademie Freiberg, Germany; 2: Centre of Excellence for Safety Research (CESAR), VSB – Technical University of Ostrava</p> <p><b>Electrification and carbon utilisation of dry reforming of methane (DRM) via thermal plasma</b> Iacopo Aloisi<sup>1</sup>, Ivan Gogolev<sup>2</sup>, Teresa Berdugo Vilches<sup>1</sup>, Martin Seemann<sup>1</sup> 1: Chalmers University of Technology, Sweden; 2: University of Waterloo</p> <p><b>Assessment of plasma torches as alternative energy supply in furnaces and computational comparison with combustion processes</b> Rene Prieler<sup>1</sup>, Stefan Schwarz<sup>1</sup>, Georg Daurer<sup>1</sup>, Frank Laurisch<sup>2</sup>, Roland Rückert<sup>2</sup>, Michael Schnick<sup>2</sup>, Christoph Hochenauer<sup>1</sup> 1: Institute of Thermal Engineering, Graz University of Technology, Inffeldgasse 25/B, A-8010 Graz, Austria; 2: Kjellberg Finsterwalde Plasma und Maschinen GmbH, Oscar-Kjellberg-Straße 20, DE-03238 Finsterwalde</p>
<p>10:45am - 11:15am</p>	<p><b>CB1: COFFEE BREAK</b></p>		
<p>11:15am - 12:35pm</p>	<p><b>4. BIO 1: Biomass 1</b></p> <p><b>Torrefaction of Spent Coffee Grounds: Effects of Devolatilization Conditions on Fuel Quality and Performance</b> Bassazin Ayalew Mekonnen<sup>1</sup>, Solomon Workneh Fanta<sup>2</sup>, Johan De Greef<sup>3</sup>, Jo Van Caneghem<sup>3</sup>, Maarten Vanierschot<sup>1,4</sup> 1: Department of Mechanical Engineering, Group T Leuven campus, KU Leuven, BE-3000 Leuven, Belgium; 2: Faculty of Chemical and Food Engineering, Bahir Dar Institute of</p>	<p><b>5. CCS 1 (oxy): CCS 1 (oxy)</b></p> <p><b>Experimental Investigation of natural gas-oxyfuel flames with hydrogen admixture and the Challenges of exhaust gas measurements</b> Anna Hasche, Sven Eckart, Hartmut Krause Institute for gas and thermal engineering systems, TU Bergakademie Freiberg, Germany</p> <p><b>Oxyfuel Combustion of Biogenic Pyrolysis Gas for Process Heat</b></p>	<p><b>6. PLA 1: Plastics 1</b></p> <p><b>Multidimensional modelling of polyvinyl chloride thermal decomposition using reduced-order chemistry and computational fluid dynamics</b> Zouhir Bouchaar<sup>1</sup>, Jo Van Caneghem<sup>1</sup>, Maarten Vanierschot<sup>2</sup>, Johan De Greef<sup>1</sup> 1: ChEMaRTS – Department of Materials Engineering – Group T campus – KU Leuven – Leuven (Belgium); 2: AFAA – Department of Mechanical Engineering – Group T</p>

	<p>Technology, Bahir Dar University, Bahir Dar, Ethiopia; 3: Department of Materials Engineering, Group T Leuven campus, KU Leuven, BE-3000 Leuven, Belgium; 4: Materials Science, Innovation and Modelling (MaSIM) Research Focus Area, North-West University, Mmabatho 2745, South Africa</p>	<p><b>Supply and CO<sub>2</sub> Capture</b>  <b>Felix Lehner, Christian Groves, Niklas Gebhard, Martin Meiller</b>  Fraunhofer-Institut UMSICHT, Germany</p>	<p>campus – KU Leuven – Leuven (Belgium)</p>
	<p><b>Experimental and modeling study from fast biomass pyrolysis to support industrial bio-CLC development</b>  <b>Alice Wittmann, Cornelius Schönnenbeck, Jean-François Brillhac, Alain Brillard, Guillaume Gerandi, Valérie Tschamber</b>  Université de Haute-Alsace, LGRE UR 2334, F-68100 Mulhouse, France</p>	<p><b>Study of coaxial oxy-fuel hydrogen-methane flames for melting furnace applications</b>  <b>Mario Ditaranto, Mette Bugge, Ewa Karchniwy, Inge Saanum</b>  SINTEF Energy Research, Norway</p>	<p><b>Thermochemical Conversion of Wood-Plastic Composites</b>  <b>Christian Fischer<sup>1</sup>, Michael Dölz<sup>2</sup>, Tobias Plessing<sup>3</sup></b>  1: Institut für Wasserstoff- und Energietechnik - Hochschule Hof, Germany; 2: Institut für Wasserstoff- und Energietechnik - Hochschule Hof, Germany; 3: Institut für Wasserstoff- und Energietechnik - Hochschule Hof, Germany</p>
	<p><b>Negative Emission Technology: Developing a new multifuel furnace for flexibly producing biochar and heat</b>  <b>Martin Pichler<sup>1</sup>, Maximilian Steiner<sup>1</sup>, Lukas von Berg<sup>1</sup>, Christoph Hochenauer<sup>1</sup>, Robert Scharler<sup>1</sup>, Markus Buchmayr<sup>2</sup></b>  1: Institute of Thermal Engineering, Graz University of Technology, Inffeldgasse 25b, A-8010 Graz, Austria; 2: Hargassner GesmbH, Anton Hargassner Strasse 1, A-4952 Weng, Austria</p>	<p><b>Ch0C: a low-carbon dioxide and low-NOx oxy-fuel boiler pilot</b>  <b>Livia TARDELLI<sup>1</sup>, Soizic ESNAULT<sup>2</sup>, Florian LAGRANGE<sup>2</sup>, Stephan RESSANT<sup>3</sup>, Laurent MARIAC<sup>4</sup>, Etienne HADDAD<sup>5</sup>, Giampaolo MAIO<sup>6</sup>, Ludovic FERRAND<sup>6</sup>, Joan OLIVIER<sup>7</sup>, Louis RICCI<sup>8</sup></b>  1: NaTran; 2: Naldeo Technologies &amp; Industries; 3: GRDF; 4: TotalEnergies OneTech; 5: Verdemobil Biogaz; 6: ENGIE Lab CRIGEN; 7: Babcock Wanson; 8: Fives</p>	<p><b>Thermal Decomposition of Alternative Fuels Using Hot Cement Meal in a Loop seal Pulsating Fluidized Bed</b>  <b>Revanth M<sup>1</sup>, Kamal Negi<sup>1</sup>, Hao Wu<sup>2</sup>, Mohamadali Mirzaei<sup>2</sup>, Morten Nedergaard Pedersen<sup>3</sup>, Satyanarayana B<sup>4</sup>, Varunkumar S<sup>1</sup></b>  1: Department of Mechanical Engineering, Indian Institute of Technology Madras, Chennai, India; 2: Department of Chemical and Biochemical Engineering, Technical University of Denmark, Søtofts Plads, Lyngby Campus, 2800 Kgs. Lyngby, Denmark; 3: FLSmidth Cement A/S, Vigerslev Allé 77, Valby 2500, Denmark; 4: FLSmidth Cement India LLP, Chennai, India</p>
	<p><b>Morphological analysis of walnut shell and beech wood particles during flash pyrolysis: Investigation of particle shape and porosity</b>  <b>Erik Freisewinkel<sup>1</sup>, Tim Eisenbach<sup>2</sup>, David Tralinski<sup>1</sup>, Martin Schiemann<sup>1</sup>, Roland Span<sup>2</sup>, Viktor Scherer<sup>1</sup></b>  1: Institute of Energy Plant Technology, Ruhr-University Bochum, Germany; 2: Thermodynamics, Ruhr University Bochum, Germany</p>		<p><b>Progress and Challenges in Modeling Plastic Pyrolysis</b>  <b>Feichi Zhang<sup>1</sup>, Muhao Li<sup>1</sup>, Salar Tavakkol<sup>1</sup>, Xiaoyue Ma<sup>1</sup>, Thorsten Zirwes<sup>2</sup>, Rui Zhang<sup>3</sup>, Dieter Stapf<sup>1</sup></b>  1: Karlsruhe Institute of Technology, Germany; 2: University of Stuttgart, Germany; 3: Nanjing University of Science and Technology, China</p>
<p>12:35pm - 1:50pm</p>	<p>LUN1: LUNCH</p>		
<p>1:50pm - 2:40pm</p>	<p><b>PS1: POSTER SESSIONS - SHORT PRESENTATIONS</b></p> <p><b>Impact of Fuel Velocity on a Self-Recuperative Burner in a PP-type Radiant Tube Operating on Natural Gas and Hydrogen: A Numerical Study</b>  <b>Johannes Losacker<sup>1</sup>, Elsa Busson<sup>1</sup>, Johanna Effertz<sup>1</sup>, Nico Schmitz<sup>1</sup>, Joachim Wünnig<sup>2</sup>, Christian Wuppermann<sup>1</sup></b>  1: RWTH Aachen University, Department for Industrial Furnaces and Heat Engineering, Germany; 2: WS Wärmeprozessstechnik GmbH, Germany</p> <p><b>Adapting to the fuel: a new approach to low-NOx industrial combustion</b>  <b>Marcel Biehl<sup>1</sup>, Nicolas Rupietta<sup>2</sup>, Anne Giese<sup>1</sup>, Christoph Wieland<sup>3</sup></b>  1: Gas- und Wärme-Institut Essen e.V., Germany; 2: Friedrich Ley GmbH, Germany; 3: Chair for Energy Process</p>	<p><b>PS2: POSTER SESSIONS - SHORT PRESENTATIONS</b></p> <p><b>Real-Time Combustion Optimization of Hydrogen-Natural Gas Mixtures via Ultrasonic TOF Sensing</b>  <b>Sven Eckart<sup>2,3,4</sup>, Jakob Sablowski<sup>1</sup>, Lennart Schierling<sup>1</sup>, Robert Kunz<sup>1</sup>, Hartmut Krause<sup>2,3</sup>, Christian Kupsch<sup>1,2</sup></b>  1: Measurement, Sensor and Embedded Systems Laboratory (MSE Lab), TU Bergakademie Freiberg; 2: Center for Efficient High Temperature Processes and Materials Conversion, ZeHS, TU Bergakademie Freiberg; 3: Chair for Gas and Heat Technology, TU Bergakademie Freiberg; 4: Centre of Excellence for Safety Research (CESAR), VSB – Technical University of Ostrava</p> <p><b>Optical Measurement System for the High-Pressure Entrained-Flow Gasification using a</b></p>	

Engineering and Energy Systems,  
University of Duisburg-Essen, Germany

**Effects of oxygen-enriched combustion on furnace and blooms in an industrial reheating furnace: Coupled CFD simulations with comprehensive measurements.**

**Christian Kislinger<sup>1</sup>, Georg Daurer<sup>1</sup>, Laurent Sieye<sup>2</sup>, Stefan Schwarz<sup>1</sup>, Martin Demuth<sup>3</sup>, Christian Gaber<sup>3</sup>, Christoph Hochenauer<sup>1</sup>**

1: Graz University of Technology, Institute of Thermal Engineering, Inffeldgasse 25/B, Graz, 8010, Austria; 2: Ugitech SA, Rue du Dr Gallet 6, Cluses, 74300, France; 3: Messer Austria GmbH, Industriestraße 5, Gumpoldskirchen, 2352, Austria

**Sensitivity analysis for the determination of process parameters in the utilization of biogenic residues in the open gas turbine process**

**Luis Wunder, Daniel Bernhardt, Michael Beckmann**

Technische Universität Dresden, Germany

**Experimental Investigation of NO<sub>x</sub> Formation in Oxyfuel Combustion of Natural Gas- or Propane-Hydrogen Mixtures using a 20 kW Fuel Flexible High-Impulse Burner.**

**Franziska Ott, Svenja Harder, Nico Schmitz, Christian Wuppermann**  
RWTH Aachen University, Germany

**Hydrogen and Oxyfuel Combustion in Industrial Burners: Pathways to Ultra-Low NO<sub>x</sub> and High Efficiency**

**Nidhin Thekkedath Madhu<sup>1,2</sup>, Martin Adendorff<sup>1</sup>, Kristina Mabic<sup>1</sup>, Rafat Hirmiz<sup>3</sup>, Esin Iplik<sup>4</sup>, Sven Eckart<sup>2</sup>, Hartmut Krause<sup>2</sup>**

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**Numerical Evaluation of Ammonia Co-firing Strategies with Coal in a 1000 MWe Wall-Firing Boiler**

**Seonkyo Ha<sup>1</sup>, Woosuk Kang<sup>1</sup>, Yunha Koo<sup>1</sup>, Changkook Ryu<sup>1</sup>, Donggyu Kim<sup>2</sup>, Kyoungil Park<sup>2</sup>, Sehyun Baek<sup>2</sup>**

1: Sungkyunkwan University; 2: Korea Electric Power Research Institute

**Low calorific gas combustion in the SI engine under oxygen enrichment**

**Rolandas Paulauskas, Adolfas Jančauskas, Ernest Bykov, Kęstutis**

**Highspeed-Camera and Image Processing**

**Jörg Matthes<sup>1</sup>, Max Kollmer<sup>1</sup>, Mark Eberhard<sup>1,2</sup>, Thomas Kolb<sup>1</sup>**

1: KIT, Germany; 2: ARCUS Greencycling Germany

**Experimental investigation of the radiation profile of inert and reactive particles in a batch reactor**

**Matthias Tyslik, Alexander Böse, Carl Hentschel, Martin Schiemann**  
Ruhr-University Bochum, Germany

**On-line identification of pneumatically conveyed pulverized biomass through acoustic emission sensing and VMD-based spectral analysis**

**Xingxing Zeng<sup>1</sup>, Yong Yan<sup>1</sup>, Xiangchen Qian<sup>2</sup>**

1: Beihang University, China, People's Republic of; 2: North China Electric Power University, China, People's Republic of

**Advanced numerical modelling of thermochemical conversion in single biomass particle pyrolysis**

**Yuan Chen<sup>1</sup>, Johan De Greef<sup>2</sup>, Maarten Vanierschot<sup>1</sup>**

1: Department of Mechanical Engineering, Group T Leuven campus, KU Leuven, Leuven, Belgium; 2: Department of Materials Engineering, Group T Leuven Campus, KU Leuven, Leuven, Belgium

**Modeling Ignition and Combustion in Biomass Particle Clouds**

**Matteo Giesen, Daniel Bernhardt, Michael Beckmann**

TU Dresden, Germany

**Thermal treatment of lithium batteries in a rotary kiln**

**Fabian Herz, Fabian Weigler, Franz Hoffmann**

Anhalt University of Applied Sciences, Germany

**Experimental and DEM investigation in a honeycomb rotary kiln for the gentle thermal treatment of bulk materials**

**Jannes Hahne<sup>1</sup>, Claudia Meitzner<sup>1</sup>, Andreas Bück<sup>2</sup>, Fabian Herz<sup>1</sup>**

1: Anhalt University of Applied Sciences; 2: Otto von Guericke University Magdeburg

**Experimental Investigation of Combustion Performance of Iron Based Fuels in a Fluidized Bed Reactor**

**Balte Johnen, Falko Marx, Jochen Ströhle, Bernd Epple**

Technical University Darmstadt, Germany

**From oxidation to nucleation: Reactor network modeling for**

**Zakarauskas**  
Lithuanian Energy Institute, Lithuania

**CFD predictions of the aerodynamics of a 400 kW Grid Cone Four Hole Natural Gas Burner: Comparison with experimental NOx results for 100 and 400 kW burners.**

**Gordon Andrews<sup>1</sup>, Ramon Quinonez<sup>2</sup>, Ray Massey<sup>2</sup>, Richard Wakeman<sup>3</sup>, Steve Smith<sup>3</sup>, Herodotos Phylaktou<sup>1</sup>, Xueqin Chen<sup>1</sup>**  
1: University of Leeds (Retired), United Kingdom; 2: Clean Burner Systems, Preston, United Kingdom; 3: Nuphant Ltd., Rugby, United Kingdom

**Dynamic simulation of turquoise hydrogen production using a regenerative non-catalytic pyrolysis reactor under various heat sources**

**Jiseon Park<sup>1,2</sup>, Youngjae Lee<sup>1</sup>, Uendo Lee<sup>1</sup>, Won Yang<sup>1</sup>, Jongsup Hong<sup>2</sup>, Seongil Kim<sup>1</sup>**  
1: Korea Institute of Industrial Technology, Korea, Republic of (South Korea); 2: Yonsei university, Korea, Republic of (South Korea)

**Flexible roof burner for hydrogen integration in steel reheating furnace**

**Hassan Mohanna, Sébastien Caillat**  
Fives Stein, France

**High pressure combustion of ammonia blends with industrial gas turbine burners**

**Mario Ditaranto, Inge Saanum**  
SINTEF Energy Research, Norway

**Stability, Reactive Structures, and Emissions of Pure, Partially, and Fully Cracked Ammonia in a Semi-Industrial Furnace under MILD Conditions**

**Ebrahim Rahmani<sup>1,2</sup>, Natalia Cid<sup>1,2,3</sup>, M. Mustafa Kamal<sup>1,2</sup>, Axel Coussement<sup>1,2</sup>, Alessandro Parente<sup>1,2,3</sup>, Marco Lubrano Lavadera<sup>1,2</sup>**  
1: Aero-Thermo-Mechanics Department, Université Libre de Bruxelles, 1050, Brussels, Belgium; 2: Brussels Institute for Thermal-Fluid Systems and Clean Energy (BRITE), Université Libre de Bruxelles and Vrije Universiteit Brussel, Brussels, Belgium; 3: WEL Research Institute, Avenue Pasteur 6, 1300, Wavre, Belgium

**Transitioning from natural gas to hydrogen: optical and probe diagnostics of oxy-fuel combustion in a 150 kW industrial test furnace**

**M. Mustafa Kama<sup>1,2</sup>, Tamara Osseily<sup>1,2</sup>, Tim Nowakowski<sup>3</sup>, Jörg Leicher<sup>3</sup>, Anne Giese<sup>3</sup>, Marco Lubrano Lavadera<sup>1,2</sup>, Alessandro Parente<sup>1,2,4</sup>**

**nanoparticle formation in laboratory-scale iron dust flames**

**Sören Dübal<sup>1,2</sup>, Pascal Steffens<sup>2</sup>, Johannes Mich<sup>2</sup>, Antje Vahl<sup>2</sup>, Christian Hasse<sup>2</sup>, Hendrik Nicolai<sup>2</sup>, Sandra Hartl<sup>1</sup>**

1: Faculty Mechanical and Systems Engineering, University of Applied Sciences Esslingen, Kanalstraße 33, 73728, Esslingen, Germany; 2: Institute for Simulation of reactive Thermo-Fluid Systems, TU Darmstadt, Otto-Berndt-Straße 2, 64287 Darmstadt, Germany

**An experimental study on the heat transfer characteristics of methane-iron hybrid flames**

**chang hee Byun, tae young Chae, jae wook Lee, won Yang**  
Korea Institute of Industrial Technology(Korea), Korea, Republic of (South Korea)

**Thermal Valorization of Industrial Iron(II) Oxalate Byproduct from Metal Pickling: Pathways to Magnetite Production and Circular Economy Applications**

**Antonio Fabozzi<sup>1</sup>, Emiliano Salucci<sup>2</sup>, Francesca Cerciello<sup>1</sup>, Raouia Chagtm<sup>1</sup>, Antonio D'Angelo<sup>3</sup>, Francesco Bellucci<sup>4</sup>, Rosa Francesca<sup>5</sup>, Henrik Grénman<sup>2</sup>, Henrik Saxen<sup>2</sup>, Martino Di Serio<sup>3</sup>, Vincenzo Russo<sup>3</sup>, Osvolda Senneca<sup>3</sup>**  
1: Istituto di Scienze e Tecnologia per l'Energia e la Mobilità Sostenibili (STEMS)-CNR, 80125 Napoli, Italy; 2: Department of Chemical Engineering, Åbo Akademi University, Henrikinkatu 2, 20500 Turku, Finland; 3: Department of Chemical Science, University of Naples Federico II, Via Cintia 26, 80126 Napoli, Italy; 4: CRdC Tecnologie Scarl, Via Nuova Agnano 11, 80125 Napoli, Italy; 5: Irpinia Zinco srl, Nucleo Industriale Calaggio, 83046 Lacedonia, Italy

**New material solutions for ammonia cracking above 550°C**

**Katharina Beck<sup>1</sup>, Ceyhun Oskay<sup>1</sup>, Fausto Tidona<sup>2</sup>, Lena Engelmeier<sup>2</sup>, Mathias C. Galetz<sup>1</sup>**  
1: DECHEMA Forschungsinstitut, Germany; 2: Zentrum für BrennstoffzellenTechnik GmbH, Germany

**Experimental and Numerical Study on Mixing and Segregation of a Bulk of Irregularly Shaped Particles on a Batch Stoker Grate**

**Daria Golab, Nikoline Hilse, Martin Schiemann, Viktor Scherer**  
Ruhr University Bochum, Germany

**Development of novel resistance heating elements using innovative materials and process combinations**

**Luis Schrade, Dominik Büschgens, Christian Wuppermann**  
Department for Industrial Furnaces and Heat Engineering, RWTH Aachen University, Aachen, Germany

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### **Numerical Evaluation of MILD Hydrogen–Oxyfuel Combustion for NOx Reduction Under Air Leakage Conditions**

**Alex M. Garcia<sup>1</sup>, Nico Schmitz<sup>1</sup>, Andreas Buchholz<sup>2</sup>, Esin Iplik<sup>3</sup>, Christian Wuppermann<sup>1</sup>**

1: Department for Industrial Furnaces and Heat Engineering, RWTH Aachen University, Kopernikusstr. 10, 52074 Aachen, Germany; 2: Speira GmbH, Research & Development, Georg-von-Boeselager-Str. 21, 53117 Bonn, Germany; 3: Linde Sverige AB, 2-10 Varuvägen, 125 30 Älvsjö, Sweden

### **Oxyfuel combustion of waste streams with oxygen from electrolysis and Analysis of utilization paths of captured CO<sub>2</sub> with H<sub>2</sub> (WOxyfuel)**

**Krasimir Aleksandrov<sup>1</sup>, Gehrman Hans-Joachim<sup>1</sup>, Vanessa Nuredin<sup>1</sup>, Simon Simon Grathwohl<sup>2</sup>, Jörg Maier<sup>2</sup>, Thomas Glorius<sup>3</sup>, Dieter Stapf<sup>1</sup>**

1: Karlsruhe Institute of Technology (KIT) / Institute for Technical Chemistry, Germany; 2: University of Stuttgart / Institute of Combustion and Power Plant Technology (IFK), Germany; 3: REMONDIS Erftstadt, Germany

### **Development and optimization of injection strategies for industrial boiler burners fed with low-boiling-point liquid fuel**

**Daniele Ettore<sup>1,2</sup>, Lorenzo Morandi<sup>2</sup>, Domenico Carucci<sup>2</sup>, Tiziana Vela<sup>2</sup>, Marco Torresi<sup>1</sup>, Alessandro Saponaro<sup>3</sup>, Gianluca Rossiello<sup>2</sup>**

1: Department of Mechanics, Mathematics and Management (DMMM), Polytechnic University of Bari, Via Re David, 200 – 70125 Bari, ITALY; 2: Termotecnica Industriale Srl, via Pietro Paleocapa, 1 – 20121 Milano, ITALY; 3: Centro Combustione Ambiente SpA (CCA), via Milano km 1,600 – 70023 Gioia del Colle (BA), ITALY

### **Effects of Dimethyl ether/natural gas blends on a test rig fired by a Swirl-Stabilized Cold Air Burner**

**Moritz Diewald, Nico Schmitz, Christian Wuppermann**

Department for Industrial Furnaces and Heat Engineering, RWTH Aachen University, Germany

### **Ultra-low NOx Combustion Retrofit of Heavy Crude Oil Heater**

### **Design and operation of a scalable fully electric three-fold hybrid heated glass melting furnace**

**Ralph Behrend<sup>1,4</sup>, Andreas Pestel<sup>1,4</sup>, Sven Eckart<sup>1,3,4</sup>, Sindy Fuhrmann<sup>2,4</sup>, Hartmut Krause<sup>1,4</sup>**

1: TU Bergakademie Freiberg, Institute of Thermal Engineering, Germany; 2: TU Bergakademie Freiberg, Institute of Glass Science and Technology, Germany; 3: Centre of Excellence for Safety Research (CESAR) Ostrava, Czech Republic; 4: TU Bergakademie Freiberg, Center for Efficient High Temperature Processes and Materials Conversion, Germany

### **Design-Driven Operational Excellence in Submerged Arc Furnaces for Silicon and Ferroalloy Production**

**Valdiney Domingos de Oliveira**  
Si&Mex Solutions GmbH, Germany

### **Numerical Investigations of a fuel-flexible oxyfuel system for carbon-free preheating of transport ladles**

**Hannah Kaiser<sup>1</sup>, Julius Gerstein<sup>1</sup>, Johannes Losacker<sup>1</sup>, Nico Schmitz<sup>1</sup>, Christian Wuppermann<sup>1</sup>, Felix Firsbach<sup>2</sup>, Danny Schreiber<sup>3</sup>, Ralf Schweikle<sup>2</sup>**

1: Department of Industrial Furnaces and Heat Engineering, RWTH Aachen University, Germany; 2: Badische Stahl-Engineering GmbH, Germany; 3: Badische Stahlwerke GmbH

### **Greenhouse Gas Emissions during Sewage Sludge Combustion in Germany – Results of emission measurements at real mono-incineration plants**

**Min Su Sohn<sup>1</sup>, Daniel Bernhardt<sup>1</sup>, Michael Schinke<sup>2</sup>, Michael Beckmann<sup>1</sup>**

1: Chair of Energy Process Engineering, Technical University of Dresden, George-Bähr-Straße 3b, D - 01069 Dresden, Germany; 2: ERGO Umweltinstitut GmbH, Lauensteiner Straße 42, D-01277 Dresden, Germany

	<p><b>Mark Hannum<sup>1</sup>, Bruce Osman<sup>2</sup>, Douglas Nichols<sup>2</sup></b>  1: Fives North American Combustion, United States of America; 2: Cenovus Energy</p>		
2:45pm - 4:05pm	<b>PS3: POSTER SESSION</b>		
4:05pm - 4:35pm	<b>CB2: COFFEE BREAK</b>		
4:35pm - 5:55pm	<p><b>7. H2 1: H2 1</b></p> <p><b>Impact of hydrogen combustion on NOx emissions – physical and regulatory aspects</b>  <b>Jörg Leicher, Anne Giese</b>  Gas- und Wärme-Institut Essen e.V., Germany</p> <hr/> <p><b>Experimental Study of the Impact of Fuel Velocity on a Self-Recuperative Burner in a PP-type Radiant Tube Operating on Natural Gas and Hydrogen</b>  <b>Elsa Busson<sup>1</sup>, Matthias Sanders<sup>1</sup>, Meinhard Mühlbach<sup>2</sup>, Nico Schmitz<sup>1</sup>, Joachim G. Wünnig<sup>2</sup>, Christian Wuppermann<sup>1</sup></b>  1: RWTH Aachen University, Department for Industrial Furnaces and Heat Engineering, Germany; 2: WS Wärmeprozessstechnik GmbH</p> <hr/> <p><b>Performance Evaluation of Hydrogen and Hydrogen/Natural Gas Blends Combustion in an Industrial-Scale Aluminum Reverberatory Furnace</b>  <b>Louis Piquard<sup>1</sup>, Andreas Koeppen<sup>2</sup>, Esin Iplik<sup>3</sup>, Nico Schmitz<sup>4</sup></b>  1: Constellium Technology Center, Parc Economique Centr'alp CS10027, Voreppe 38341 cedex, France; 2: Endress+Hauser SICK GmbH+Co.KG   Gisela-Sick-Straße 1   79276 Reute   Germany; 3: Linde Technology, Metals Combustion &amp; Energy EMEA, Varuvägen 2 125 30 Älvsjö - Sweden; 4: Department for Industrial Furnaces and Heat Engineering, RWTH Aachen University, 52074 Aachen, Germany</p> <hr/> <p><b>Development of novel additively manufactured ceramic hydrogen burner components for innovative energy efficiency strategies</b>  <b>Jerome Michel<sup>1</sup>, Daniel Bernhardt<sup>1</sup>, Hans-Peter Martin<sup>2</sup>, Katrin Schönfeld<sup>2</sup>, Steffen Dahms<sup>3</sup>, Michael Beckmann<sup>1</sup></b>  1: Technical University Dresden, Chair of Energy Process Engineering, Germany; 2: Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Dresden, Germany; 3: Günter Köhler Institute for Joining Technology and Materials Testing GmbH, Jena, Germany</p>	<p><b>8. POLL 1: Pollution1</b></p> <p><b>NOx emission reduction through fuel staging in regenerative flat flame burners</b>  <b>Fabian Scheck, Ismail Gürler, Wolfgang Klein</b>  Andritz Metals Germany GmbH, Germany</p> <hr/> <p><b>CFD modelling of NOx emission for combustion in a coke-oven-battery: simplified vs detailed approach</b>  <b>Daniele Ettorre<sup>1,2</sup>, Tiziana Vela<sup>1</sup>, Marco Torresi<sup>1</sup>, Alberto Campodonico<sup>3</sup>, Alberto Vicentini<sup>3</sup>, Gianluca Rossiello<sup>2</sup></b>  1: Department of Mechanics, Mathematics and Management (DMMM), Polytechnic University of Bari, Via Re David, 200 – 70125 Bari, ITALY; 2: Termotecnica Industriale Srl, via Pietro Paleocapa, 1 – 20121 Milano, ITALY; 3: Centro Combustione Ambiente SpA (CCA), via Milano km 1,600 – 70023 Gioia del Colle (BA), ITALY</p> <hr/> <p><b>Novel modular fixed bed combustion system to investigate NO reduction by biomass char</b>  <b>Thomas Bertus, Théodore Graul, Eduardo Cano-Pleite, Antonio Soria-Verdugo, Andrés Anca-Couce</b>  Universidad Carlos III de Madrid, Spain</p> <hr/> <p><b>Thermal energy storage technologies for the thermoprocessing and process industries, a review</b>  <b>Benedikt Bender<sup>1</sup>, Torsten Seidel<sup>2</sup>, Ritesh Saw<sup>1</sup>, Siri Harboe-Minwegen<sup>1</sup>, Sangeetha Ramaswamy<sup>1</sup>, Dagmar Kuckelberg<sup>1</sup></b>  1: OWI Science for Fuels gGmbH, Germany; 2: Fraunhofer-Institut für Fertigungstechnik und Angewandte Materialforschung IFAM, Institutsteil Dresden, Germany</p>	<p><b>9. FUR 1: Furnaces 1</b></p> <p><b>Numerical investigation on the influence of burner geometry on the particle formation in an industrial spray roasting reactor</b>  <b>Linus Poelling, Alisa Gyubbenet, Martin Schiemann</b>  Institute of Energy Plant Technology, Germany</p> <hr/> <p><b>Experimental investigation of heat penetration and drying efficiency for expanded clay in a rotary kiln</b>  <b>Claudia Meitzner<sup>1</sup>, Fabian Herz<sup>1</sup>, Eckehard Specht<sup>2</sup></b>  1: Anhalt University of Applied Sciences; 2: Otto von Guericke University Magdeburg</p> <hr/> <p><b>CFD and experimental investigation of pulsed fluidization for a novel pyrolysis technology for increasing alternative fuel utilization in cement production</b>  <b>Mohamadali Mirzaei<sup>1</sup>, Morten Pedersen<sup>2</sup>, Varun Kumar S<sup>3</sup>, Hao Wu<sup>1</sup></b>  1: Technical University of Denmark (DTU), Department of Chemical and Biochemical Engineering; 2: FLSmidth Cement A/S; 3: Indian Institute of Technology</p> <hr/> <p><b>Toward a reliable design methodology for CaL calciners based on pilot-scale CO<sub>2</sub> capture operations</b>  <b>Martin Greco-Coppi, Jochen Ströhle, Bernd Epple</b>  Technical University of Darmstadt, Institute for Energy Systems and Technology, Germany</p>

Date: Thursday, 09/Apr/2026

<p>8:30am - 9:20am</p>	<p><b>KN3: KEYNOTE LECTURE III</b> Anne Tretau - Material Research and Testing Institute Weimar, Germany "Decarbonization technologies in the European brick and tile industry"</p>		
<p>9:25am - 10:45am</p>	<p><b>10. AMM 2: Ammonia 2</b></p> <p><b>Development of an optimized concept for the combustion of ammonia in industrial burner systems</b> <b>Bernd Feller<sup>1</sup>, Marcel Biebl<sup>1</sup>, Anne Giese<sup>1</sup>, Christoph Wieland<sup>1,2</sup></b> 1: GWI Essen e.V., Hafenstraße 101, 45356 Essen, Germany; 2: Chair of Energy Process Engineering and Energy Systems, University of Duisburg-Essen, Leimkugelstraße 10, 45141 Essen, Germany</p> <p><b>Ammonia in industrial burners: Experimental investigation of the direct energetic utilisation</b> <b>Klara Frey<sup>1,2</sup>, Christof Weis<sup>1</sup>, Dimosthenis Trimis<sup>2</sup></b> 1: DVGW Research Center at Engler-Bunte-Institut Karlsruhe Institute of Technology (KIT), Germany; 2: Karlsruhe Institute of Technology, Engler-Bunte-Institute Combustion Technology, Germany</p> <p><b>An experimental study on the characteristics of NOx emission using a pilot-scale coal/ammonia co-firing combustion system</b> <b>Tae young Chae, Won Yang, Jae wook Lee, Seong hwan Hwang</b> Korea institute of industrial technology, Korea, Republic of (South Korea)</p> <p><b>Experimental Study on NOx Emission Characteristics Using a 100 kWth Ammonia Combustion Burner</b> <b>Seonghwan Hwang<sup>1,2</sup>, Taeyoung Chae<sup>1</sup>, Jae Wook Lee<sup>1</sup>, Won Yang<sup>1</sup>, Oh Chae Kwon<sup>2</sup></b> 1: Korea Institute of Industrial Technology, Cheonan, Republic of Korea; 2: School of Mechanical Engineering, Sungkyunkwan University, Suwon, Republic of Korea</p>	<p><b>11. MET 2: Metals 2</b></p> <p><b>Preliminary Investigations of Iron Fuel Combustion in a Semi-Industrial Combustion Chamber</b> <b>Dominik König, Balte Johnen, Falko Marx, Jochen Ströhle, Bernd Eppe</b> TU Darmstadt, Germany</p> <p><b>IRON AS H<sub>2</sub> VECTOR: A MORE ENVIRONMENTALLY SUSTAINABLE PATHWAY FOR SAFE AND SCALABLE HYDROGEN TRANSPORT?</b> <b>Fulvia Iannotta<sup>1</sup>, Andrea Paulillo<sup>1</sup>, Sebastian Schmitt<sup>2</sup>, Antonio Coppola<sup>3</sup>, Osvalda Senneca<sup>3</sup>, Viktor Scherer<sup>4</sup>, Oğuzhan Narin<sup>2</sup>, Roberto Chirone<sup>1</sup></b> 1: eLoop, Italy; 2: Doosan Lentjes, Germany; 3: Institute of Sciences and Technologies for Sustainable Energy and Mobility of National Research Council, STEMS-CNR, Italy; 4: Department of Mechanical Engineering, Ruhr-University (RUB), Germany</p> <p><b>Mathematical modeling of Iron oxide reduction using extended three Interface Random pore model:</b> <b>Antonio D'Angelo, Emiliano Salucci, Vincenzo Russo, Martino Di Serio, Henrik Grenman, Henrik Saxen</b> abo akademi, Finland</p> <p><b>Automated furnace tuning for temperature uniformity for heat treating metals</b> <b>Benjamin Witoff, Justin Dzik, Mark Hannum</b> Fives North American Combustion, United States of America</p>	<p><b>12. ELE 2: Electrification 2</b></p> <p><b>Plasma-Assisted Fuel-Flexible Combustion: Advancing Sustainable Heat Generation for the Glass Industry</b> <b>Nerijus Striūgas, Andrius Tamošiūnas</b> Lithuanian Energy Institute, Lithuania</p> <p><b>Prediction of Limestone Decomposition Using Microwave Heating</b> <b>Sofia Gonçalves<sup>1</sup>, Duarte Albuquerque<sup>2</sup>, José C. F. Pereira<sup>1</sup></b> 1: Instituto Superior Técnico, Portugal; 2: NOVA School of Science and Technology, Portugal</p> <p><b>Impact of Geometry and Radiative Effects on Thermal Performance of Electric Resistance Heating Elements in Convective-Dominated Systems</b> <b>Julius Wilker, Dominik Büschgens, Christian Wuppermann</b> Department for Industrial Furnaces and Heat Engineering, RWTH Aachen University, Aachen, Germany</p> <p><b>Determination of the lifetime of heating elements for hybrid heating systems</b> <b>Christoph Grimme<sup>1</sup>, Ceyhun Oskay<sup>1</sup>, Frans Kremer<sup>2</sup>, Mathias Galetz<sup>1</sup></b> 1: DECHEMA-Forschungsinstitut, Theodor-Heuss-Allee 25, 60486 Frankfurt am Main; 2: OWI Science for Fuels, Kaiserstraße 100, 52134 Herzogenrath, Deutschland</p>
<p>10:45am - 11:15am</p>	<p><b>CB3: COFFEE BREAK</b></p>		
<p>11:15am - 12:35pm</p>	<p><b>13. BIO 2: Biomass 2</b></p> <p><b>Air-Steam Gasification of Biomass in a Fluidized Bed Reactor: Application Potential for Industrial Burner Systems</b> <b>Sabine Reiss, Christian Wondra, Peter Treiber, Jürgen Karl</b> Friedrich-Alexander-University Erlangen-Nuernberg, Germany</p> <p><b>Fate of nitrogen upon thermal conversion of terrestrial and marine nitrogen rich biomasses in fixed bed reactors</b> <b>Renata Migliaccio<sup>1</sup>, Ding Jiang<sup>2</sup>, Raouia Chagtni<sup>1</sup>, Maria Maddalena</b></p>	<p><b>14. CCS 2 (oxy): CCS2 (oxy)</b></p> <p><b>Oxyfuel process for CO2 capture during waste incineration - effects on the operation of waste incineration plants</b> <b>Qiu Lu, Daniel Bernhardt, Yushuo Wang, Michael Beckmann</b> Technische Universität Dresden, Germany</p> <p><b>Full-loop Oxy-fuel Combustion Simulations of 30 MWth CIUDEN CFB Boiler</b> <b>Oguz Kaan Onay<sup>1</sup>, Ruth Diego Garcia<sup>2</sup>, Alberto Gómez-Barea<sup>2</sup>, Chungun Yin<sup>1</sup></b></p>	<p><b>15. PLA 2: Plastics 2</b></p> <p><b>Pyrolysis of glass-fiber-reinforced polymers: FTIR gas analysis and mechanical properties of recovered fibers</b> <b>Stefan Pielsticker, Sascha Roeske, Wilko Rohlf, Reinhold Kneer</b> RWTH Aachen - Institute of Heat and Mass Transfer</p> <p><b>Storage (In)Stability: Contaminant-induced Degradation of Plastics Pyrolysis Oils from</b> <b>Paul Vincent Schell<sup>1</sup>, Grazyna Straczewski<sup>1</sup>, Salar Tavakkol<sup>1</sup>,</b></p>

	<p><b>Oliano<sup>1</sup>, Assia Maaoui<sup>1</sup>, Francesca Cerciello<sup>1</sup>, Carmela Russo<sup>1</sup>, Barbara Apicella<sup>1</sup>, Shuang Wang<sup>2</sup>, Osvalda Senneca<sup>1</sup></b>  1: Istituto di Scienze e Tecnologia per l'Energia e la Mobilità Sostenibili, Consiglio Nazionale delle Ricerche, 80125 Naples, Italy; 2: School of Energy and Power Engineering, Jiangsu University, Zhenjiang 212013, Jiangsu, China</p> <p><b>Maximizing Carbon-rich Product Yield from Bioresources via an Innovative Two-stage Pyrolysis</b>  <b>Yasemin Gokyildiz, Marcelo Dal Belo Takehara, Kentaro Umeki</b>  Luleå Technical University, Sweden</p> <p><b>Catalytic Filters for Particulate Emissions Reduction in Biomass Combustion</b>  <b>Oday Hakami, Amanda Lea-Langton, Arthur Garforth, Daniel Wilson</b>  School of Engineering, University of Manchester, United Kingdom</p>	<p>1: Aalborg University (AAU), Denmark; 2: Fundacion Ciudad de la Energia (CIUDEN), Spain</p> <p><b>Assessment of Fast and Finite-Rate Chemistry Models for Hydrogen-Enriched Natural Gas Oxy-Fuel Combustion in a Semi-Industrial Furnace</b>  <b>Tamara Osseily<sup>1,2</sup>, Lorenzo Giuntini<sup>1,2</sup>, Alessandro Piscopo<sup>1,2,3</sup>, Jörg Leicher<sup>4</sup>, Tim Nowakowski<sup>4</sup>, Anne Giese<sup>4</sup>, M. Mustafa Kamal<sup>1,2</sup>, Marco Lubrano Lavadera<sup>1,2</sup>, Alessandro Parente<sup>1,2,5</sup></b>  1: Université Libre de Bruxelles, Ecole Polytechnique de Bruxelles, Aero-Thermo-Mechanical Laboratory, Avenue F.D. Roosevelt 50, 1050, Brussels, Belgium; 2: Université Libre de Bruxelles and Vrije Universiteit Brussel, Brussels Institute for Thermal-fluid systems and clean Energy (BRITE) Group, Brussels, Belgium; 3: University of Mons, Thermal Engineering &amp; Combustion Unit, Rue de l'Epargne 53, Mons, 7000, Belgium; 4: Gas- und Wärme-Institut Essen e.V. (GWI), Essen, Germany; 5: WEL Research Institute, Avenue Pasteur 6, Wavre 1300, Belgium</p> <p><b>Experimental Study on Stabilisation of High-Pressure CO<sub>2</sub>-diluted Swirled CH<sub>4</sub>-Oxyflames in a Coaxial Burner</b>  <b>Hugo Samson, Jérôme Bonnety, Ronan Vicquelin, Christopher Betrancourt, Clément Mirat</b>  Université Paris-Saclay, CNRS, CentraleSupélec, Laboratoire EM2C, 91190, Gif-sur-Yvette, France</p>	<p><b>Jochen Schütz<sup>2</sup>, Dieter Stapf<sup>1</sup></b>  1: Karlsruhe Institute of Technology, Institute of Technical Chemistry, Germany; 2: DVGW Research Center at Engler-Bunte-Institut of Karlsruhe Institute of Technology (KIT), Germany</p> <p><b>Process development and evaluation in chemical recycling: Reintegration of high-value chemicals from complex waste streams</b>  <b>Philip Biessey</b>  Ruhr University Bochum, Germany</p> <p><b>Fate of Additives &amp; Contaminants in Chemical Recycling of Plastic</b>  <b>Jean-Bernard MICHEL</b>  Humana Consulting, Switzerland</p>
<p>12:35pm - 1:50pm</p>	<p>LUN2: LUNCH</p>		
<p>1:50pm - 2:40pm</p>	<p><b>KN4: KEYNOTE LECTURE IV</b>  Christian Wuppermann - RWTH Aachen University, Germany  "A resilient, climate neutral industry and a stable power grid – potential for the flexible use of energy carriers in the thermo-process industry and subsequent research demands"</p>		
<p>2:45pm - 4:05pm</p>	<p><b>16. H2 2: H2 2</b></p> <p><b>Design of a lab-scale plant for the hydrogenation and dehydrogenation of liquid organic hydrogen carriers (LOHC)</b>  <b>Leonardo Veronesi<sup>1,2</sup>, Salvatore Oricchio<sup>1</sup>, Marco Pellegrini<sup>2</sup>, Alessandro Guzzini<sup>2</sup>, Zoe Stadler<sup>1</sup>, Cesare Sacconi<sup>2</sup></b>  1: IET Institut für Energietechnik, OST Ostschweizer Fachhochschule, Switzerland; 2: Department of Industrial Engineering, University of Bologna, Italy</p> <p><b>Operating experience with an industrial steam generator converted to Hydrogen Rich Gas operation</b>  <b>Samir Nasri, Wolfgang Timm, Sven Löwen, Bernhard Zimmermann</b>  Power Service Solutions GmbH, Germany</p> <p><b>Numerical Investigation of Radiative Heat Transfer in</b></p>	<p><b>17. MON 1: Monitoring 1</b></p> <p><b>Deriving Degradation Drivers in Electrical Heating Wires Through Model-agnostic Post-hoc Analysis</b>  <b>Simon Mählkvist<sup>1,2</sup>, Wilhelm Söderkvist Vermelin<sup>2,3</sup>, Thomas Helander<sup>1</sup>, Konstantinos Kyprianidis<sup>2</sup></b>  1: Kanthal AB, Sweden; 2: Mälardalen University; 3: RISE Research Institutes of Sweden</p> <p><b>When Additive Meets Flame: Methane-Hydrogen-Flame exhaust exposure of AM Al<sub>2</sub>O<sub>3</sub> at High Temperatures</b>  <b>Deepak Varma Thota<sup>1</sup>, Florian Kerber<sup>2</sup>, Sven Eckart<sup>1</sup>, Hartmut Krause<sup>1</sup>, Christos Aneziris<sup>2</sup></b>  1: Chair for Gas and Heat Technology, Institute of Thermal Engineering, TU Bergakademie Freiberg, Gustav-Zeuner-Straße 7, 09599 Freiberg, Germany; 2: Institute of Ceramics, Refractories and Composite Materials, TU Bergakademie Freiberg, Agricolastraße 17, 09599 Freiberg, Germany</p>	<p><b>18. FUR 2: Furnaces 2</b></p> <p><b>Using system modeling to reduce greenhouse gas emissions in the thermoprocess industry</b>  <b>Benedikt Bender, Mohammad Dany, Prithviraj Phadnis</b>  OWI Science for Fuels gGmbH, Germany</p> <p><b>CFD-based design of a new 50 MW Low-NO<sub>x</sub> burner for refinery gas with validation against full scale testing</b>  <b>Daniele Ettore<sup>1,2</sup>, Lorenzo Morandi<sup>2</sup>, Domenico Carucci<sup>2</sup>, Tiziana Vela<sup>2</sup>, Marco Torresi<sup>1</sup>, Alessandro Saponaro<sup>3</sup>, Gianluca Rossiello<sup>2</sup></b>  1: Department of Mechanics, Mathematics and Management (DMMM), Polytechnic University of Bari, Via Re David, 200 – 70125 Bari, ITALY; 2: Termotecnica Industriale Srl, via Pietro Paleocapa, 1 – 20121 Milano, ITALY; 3: Centro Combustione Ambiente SpA (CCA), via Milano km 1,600 – 70023 Gioia del Colle (BA), ITALY</p>

	<p><b>Turbulent Hydrogen-Enriched Flames</b>  <b>Hamid Shafiee<sup>1</sup>, Pedro J Coelho<sup>2</sup>, Edgar C Fernandes<sup>3</sup></b>  1: IN+, Mechanical Engineering Department, Instituto Superior Tecnico, Universidade de Lisboa, Lisbon, Portugal; 2: IDMEC, Mechanical Engineering Department, Instituto Superior Tecnico, Universidade de Lisboa, Lisbon, Portugal; 3: IN+, Mechanical Engineering Department, Instituto Superior Tecnico, Universidade de Lisboa, Lisbon, Portugal</p>	<p><b>Efficient Modelling of Creep Deformation in Radiant Tubes for the Lifetime Optimization under Cyclic Thermal Operating Conditions</b>  <b>Nicolas Dinsing, Nico Schmitz, Christian Wuppermann</b>  Department for Industrial Furnaces and Heat Engineering, RWTH Aachen University, Germany</p>	<p><b>Development of a scenario-based forecasting model using deep learning for optimizing attemperator spray water flow in a coal-fired boiler</b>  <b>Yunha Koo<sup>1</sup>, Hyunbin Jo<sup>2</sup>, Arong Jang<sup>3</sup>, Changkook Ryu<sup>1</sup></b>  1: Sungkyunkwan university, Korea, Republic of (South Korea); 2: Korea Institute of Energy Research, Korea, Republic of (South Korea); 3: Korea Midland Power, Korea, Republic of (South Korea)</p>
	<p><b>Decarbonizing ceramic firing: assessing electricity and Hydrogen as alternative energy sources</b>  <b>Ines Rondao<sup>1</sup>, Luc Henriet<sup>1</sup>, Nuno Vitorino<sup>2</sup>, Pedro Frade<sup>1</sup>, Marisa Almeida<sup>1</sup></b>  1: Technological Centre of Ceramic and Glass (CTCV), iPark - Lote 7, 3040-540 Coimbra, Portugal; 2: Induzir - Indústria e Comércio de Equipamentos Lda., Zona Ind. da Jardoeira, lote 23, 2440-474 Batalha, Portugal</p>	<p><b>Analysis of the transient axial solid transport in rotary kilns</b>  <b>Haozhi Jie, Fabian Herz</b>  Anhalt University of Applied Sciences, Germany</p>	<p><b>How Slag Temperature Governs Gas–Slag Interfacial Reactions in Zinc Recovery in a Slag Fuming Furnace</b>  <b>Mehrdad Mesgarpour<sup>1</sup>, Konstantinos G. Kyprianidis<sup>1</sup>, Rebei Bel Fdhila<sup>1,2</sup></b>  1: School of Business, Society and Engineering, Mälardalens University, Universitetsplan 1, 722 20, Västerås, Sweden; 2: Hitachi Energy Research, Forskargränd 7, 72178 Västerås, Sweden</p>
<p><b>4:30pm - 8:00pm</b></p>	<p><b>TOUR</b></p>		

Date: Friday, 10/Apr/2026

<p>8:30am - 9:20am</p>	<p><b>KN5: KEYNOTE LECTURE V</b> Sandra Gaspar - KÜTTNER, France "Innovating the cupola furnace and beyond: Decarbonising foundry processes through new fuels, new materials, and circular metallurgy"</p>		
<p>9:25am - 10:45am</p>	<p><b>19. AMM 3: Ammonia 3</b></p> <p><b>Recent progress in hydrogen and ammonia combustion for zero-emission boilers and furnaces</b> Subith Vasu, Ramees Rahman, Justin Urso, Michael Pierro CATER, UCF, United States of America</p> <p><b>Development of AI Models for Predictive Operation in a Circulating Fluidized Bed Ammonia Co-Firing System</b> Hyunbin Jo, Sung Min Yoon, Sung Jin Park, Tae-Young Mun Korea Institute of Energy Research, Korea, Republic of (South Korea)</p> <p><b>Heat Transfer Characteristics of Ammonia Combustion in Industrial Furnaces</b> Giovanni Battista Ariemma<sup>1</sup>, Giancarlo Sorrentino<sup>1</sup>, Giuseppe Langella<sup>2</sup>, Pino Sabia<sup>1</sup>, Raffaele Ragucci<sup>1</sup>, Mariarosaria de Joannon<sup>1</sup> 1: Istituto di Scienze e Tecnologie per l'Energia e la Mobilità Sostenibili (STEMS)- C.N.R.; 2: Department of Industrial Engineering - University of Naples "Federico II"</p> <p><b>Partially cracked ammonia burner</b> Carlos-Eduardo Bibow-Correa<sup>1,2</sup>, Christine Rousselle<sup>1</sup>, Pierre Brequigny<sup>1</sup>, Bruno Moreau<sup>1</sup>, Fabien Halter<sup>2</sup> 1: University of Orleans, France; 2: CNRS, Orleans, France</p>	<p><b>20. MET 3: Metals 3</b></p> <p><b>Influence of recuperative H<sub>2</sub>-burners on the operational characteristics of a light metal melting furnace - Experimental data and digital twin predictions</b> Valerie Grimm<sup>1</sup>, Thiemo Kohn<sup>3</sup>, Paul Kisza<sup>1</sup>, Ralph Behrend<sup>1</sup>, Sven Eckart<sup>1,2</sup>, Joachim Wünnig<sup>3</sup>, Hartmut Krause<sup>1</sup> 1: TU Bergakademie Freiberg, Germany; 2: Centre of Excellence for Safety Research (CESAR) Ostrava, Czech Republic; 3: WS Wärmeprozess-technik GmbH Renningen, Germany</p> <p><b>Design and Process Optimization for Fines Reduction in High-Carbon Ferrochrome Production via Submerged Arc Furnace</b> Valdiney Domingos de Oliveira Si&amp;Mex Solutions GmbH, Germany</p> <p><b>From natural gas to hydrogen: a seamless transition for sustainable steel production</b> Mattia Bissoli, Davide Astesiano, Salvatore Nardi, Matteo Bianchi, Enrico Malfa Ternova, Italy</p> <p><b>Lab-scale oxidation trials for evaluation of dimethyl ether as a replacement for fossil fuels in steel reheating furnaces</b> Gustav Häggström, Esraa Hamdy Mohamedin, Babak Ghazian, Andrea Olivas Swerim AB, Sweden</p>	<p><b>21. ELE 3: Electrification 3</b></p> <p><b>Electrification Pathways for Industrial Heat: A Strategic Portfolio by the Babcock Wanson Group</b> Mattia Orlando<sup>1</sup>, Gijs Schimmel<sup>5</sup>, Gaetan Claret<sup>2</sup>, Gaetan De Viti<sup>2</sup>, Peter Lemmen<sup>3</sup>, Martin Løvland<sup>4</sup>, Johan Olivier<sup>2</sup>, Daan Scheepens<sup>5</sup>, Stephan Schimmel<sup>5</sup>, Christopher Schmitz<sup>3</sup>, Cecilia Sebastiani<sup>1</sup>, Geert van de Weijer<sup>5</sup> 1: Babcock Wanson Italiana S.p.A., Italy; 2: Babcock Wanson France S.A.S., France; 3: VKK Standardkessel Köthen GmbH / VKK Standardkessel Service Köthen GmbH, Germany; 4: Parat Halvorsen AS, Norway; 5: Standard Fasel B.V., The Netherlands</p> <p><b>Pilot-scale demonstration of a 0.7 t/h electrified continuous annealing furnace for steel-strip processing in a hot-dip galvanizing line</b> Hookyung Lee<sup>1,2</sup>, Eun Kyung Lee<sup>1</sup>, Woo-Nam Jung<sup>1,3</sup>, Chang Bog Ko<sup>1</sup>, Dae Keun Lee<sup>1</sup>, Jinheon Choi<sup>1,4</sup>, Kyeong Cheol Baek<sup>5</sup>, Min Jong Kang<sup>5</sup> 1: Korea Institute of Energy Research, Korea, Republic of (South Korea); 2: University of Science and Technology, Korea, Republic of (South Korea); 3: Korea Advanced Institute of Science and Technology, Korea, Republic of (South Korea); 4: Korea University, Korea, Republic of (South Korea); 5: SAMWOOECO Co. Ltd., Korea, Republic of (South Korea)</p> <p><b>Industrial reheating furnace modelling: Impact of partial electrification on products</b> Jetnis Avdijaj<sup>1,2</sup>, Pratibha Biswal<sup>1,2</sup>, Marcello Bentivegna<sup>3</sup>, Alessandro Parente<sup>1,2,4</sup>, Axel Coussement<sup>1,2</sup> 1: Université libre de Bruxelles, Belgium; 2: BRussels Institute for Thermal-fluid systems and clean Energy (BRITE), Brussels, Belgium; 3: Aperam Stainless France, Aperam, Isbergues, France; 4: WEL Research Institute, Avenue Pasteur, 6, 1300 Wavre, Belgium</p> <p><b>Part-electrification of a shuttle kiln</b> Denny Mathew Alex, Rigo Giese Institut für Ziegelforschung Essen e.V.</p>
<p>10:45am - 11:15am</p>	<p><b>CB4: COFFEE BREAK</b></p>		
<p>11:15am - 12:35pm</p>	<p><b>22. MON 2: Monitoring 2</b></p> <p><b>New Features for Image-Based Classification of Refuse-Derived Fuel Particles in a Rotary Kiln Environment</b></p>	<p><b>23. CCS 3 (CO<sub>2</sub>): CCS3 (CO<sub>2</sub>)</b></p> <p><b>Sorption-enhanced CO<sub>2</sub> methanation in a lab-scale fluidized bed using zeolite sorbents</b></p>	<p><b>24. CRC: CRC</b></p> <p><b>Potentials of microwave heating for industrial applications</b> Felix Faber<sup>1</sup>, Lucas Kleine<sup>1</sup>, Jan-David Griesche<sup>4</sup>, Lucas Briest<sup>1</sup>, Jan</p>

	<p><b>Markus Vogelbacher<sup>1</sup>, Nils Beyer<sup>1</sup>, Miao Zhang<sup>1</sup>, Krasimir Aleksandrov<sup>2</sup>, Hans-Joachim Gehrman<sup>2</sup>, Jörg Matthes<sup>1</sup></b>  1: Institute for Automation and Applied Informatics (IAI), Karlsruhe Institute of Technology (KIT), Germany; 2: Institute for Technical Chemistry (ITC), Karlsruhe Institute of Technology (KIT), Germany</p> <p><b>Application of an AI-supported system for waste stream analysis – from waste delivery to influencing combustion control – in the environment of Critical Infrastructure</b>  <b>Martin Zwiellehner</b>  SAR Group, Process- and Environmental Technology, Germany</p> <p><b>Design of a novel data-driven model for advanced combustion control in Waste-to-Energy furnace systems</b>  <b>Wouter Meynendonckx<sup>1</sup>, Mathias Verbeke<sup>2,3</sup>, Mariya Ishteva<sup>4</sup>, Pieter Jan Jordens<sup>5</sup>, Nick Alderweireldt<sup>5</sup>, Johan De Greef<sup>1</sup></b>  1: Department of Materials Engineering, Group T Leuven Campus, KU Leuven, Leuven, Belgium; 2: DTAI, Department of Computer Science, Bruges Campus, KU Leuven, Belgium; 3: Flanders Make@KU Leuven, Belgium; 4: NUMA-ADVISE, Department of Computer Science, Geel Campus, KU Leuven, Belgium; 5: Indaver NV, Belgium</p> <p><b>Pulverized Fuel Injection Monitoring of Blast Furnaces through Digital Imaging and Image Processing</b>  <b>Da Chen<sup>1</sup>, Yong Yan<sup>2</sup>, Beining Shang<sup>3</sup></b>  1: North China Electric Power University, China, People's Republic of; 2: Beihang University, China, People's Republic of; 3: Changning Ltd, United Kingdom</p>	<p><b>Fiorella Massa<sup>1</sup>, Antonio Coppola<sup>1</sup>, Roberto Ruggiero<sup>2</sup>, Fabrizio Scala<sup>2</sup></b>  1: STEMS, CNR, Italy; 2: Università di Napoli Federico II, Italy</p> <p><b>An experimental study on methane and biogas oxyflames under CO<sub>2</sub> dilution for CCS applications</b>  <b>Laura Pirategue-Henao, Bertrand Lecordier, Corine Lacour, Armelle Cessou, David Honoré</b>  CORIA, CNRS, UNIROUEN, INSA Rouen, Normandie University</p> <p><b>Decreasing Excess Air in Energy from Waste Modernization Projects to Improve the Performance of Carbon Capture</b>  <b>Marcel Richter<sup>1</sup>, Georg Kränzel<sup>1</sup>, Max Schönsteiner<sup>1</sup>, Axel Hanenkamp<sup>1</sup>, Ulrich Martin<sup>1</sup>, Stefan Ringmann<sup>2</sup></b>  1: Martin GmbH für Umwelt- und Energietechnik, Germany; 2: KVA Linth, Switzerland</p> <p><b>Experimental and Numerical Investigation of a Low-NO<sub>x</sub> Oxy-Fuel Burner</b>  <b>Namsu Kim, Yong Tae Guahk, Dongmyung Seo, Seung-gon Kim, Seungjae Lim</b>  Korea Institute of Energy Reserach, Korea, Republic of (South Korea)</p>	<p><b>Barowski<sup>2</sup>, Alba Diéguez Alonso<sup>3</sup>, Nicole Vorhauer-Huget<sup>1</sup></b>  1: Otto von Guericke University Magdeburg, Germany; 2: Ruhr University Bochum, Germany; 3: TU Dortmund, Germany; 4: K+S Minerals and Agriculture GmbH, Germany</p> <p><b>Pore-informed particle model: decoupling intra-particle transport and reaction during biomass pyrolysis</b>  <b>Fabienne Ryll, Andrea Dernbecher, Alba Dieguez-Alonso</b>  Technische Universität Dortmund, Faculty of Biochemical and Chemical Engineering, Laboratory of Transport Processes, Emil-Figge-Str. 68, 44227 Dortmund, Germany</p> <p><b>Numerical investigation on the influence of anisotropic transport properties on the pyrolysis of wood particles</b>  <b>Nikoline Hilse, Martin Schiemann, Viktor Scherer</b>  Ruhr University Bochum, Germany</p> <p><b>Development of a Mesh Based Char Combustion Model for DEM/CFD-Simulations</b>  <b>Carl Hentschel, Enric Illana Mahiques, Nikoline Hilse, Viktor Scherer</b>  Ruhr-Universität Bochum, Germany</p>
<p>12:35pm - 1:50pm</p>	<p><b>LUN3: LUNCH</b></p>		
<p>1:50pm - 2:40pm</p>	<p><b>KN6: KEYNOTE LECTURE VI</b>  Jacobó Porteiro - University of Vigo, Spain  "New trends in CFD modeling of the fixed bed combustion of biomass"</p>		
<p>2:45pm - 4:05pm</p>	<p><b>25. H2 3: H2 3</b></p> <p><b>Stability and Emissions Characteristics of Syngas and Hydrogen Non-Premixed Flames</b>  <b>Housna IDRISSE<sup>1,2</sup>, Najoua LABJAR<sup>2</sup>, Souad EL HJJAJI<sup>3</sup>, Mohamed ASBIK<sup>4</sup>, Toufik BOUSHAKI<sup>1</sup></b>  1: CNRS ICARE, Orléans, France; 2: LS3MN2E, CERNE2D, ENSAM, Mohammed V University in Rabat, Morocco; 3: LS3MN2E, CERNE2D, Faculty of Sciences, Mohammed V University in Rabat, Morocco; 4: ERTE, ENSAM, Mohammed V University in Rabat, Morocco</p> <p><b>NO<sub>x</sub> Emissions for a Rich/Lean Dual Fuel Hydrogen/Natural Gas Grid Cone Industrial Burner: the</b></p>	<p><b>26. MON 3: Monitoring 3</b></p> <p><b>Investigation of turbulent NG / H<sub>2</sub> flames using optical measurement techniques</b>  <b>Sebastian Reichenbäck<sup>1</sup>, Stefan Schwarz<sup>1</sup>, Georg Daurer<sup>1</sup>, Martin Demuth<sup>2</sup>, Christian Gaber<sup>2</sup>, Christoph Hoehenauer<sup>1</sup></b>  1: Graz University of Technology, Institute of Thermal Engineering, Austria; 2: Messer Austria GmbH, Austria</p> <p><b>Development and Optimization of a Thermoacoustic Flame Monitoring System for Hydrogen-Containing Gas Combustion</b>  <b>Muralimohan Juttu Vidyasagar<sup>1</sup>, Sven Eckart<sup>1</sup>, Yohan John<sup>2</sup>, Christoph</b></p>	<p><b>27. FUR 3: Furnaces 3</b></p> <p><b>Overfire air strategies for improved furnace performance in industrial bagasse-fired boilers</b>  <b>Brad Travis Rawlins, Francois Marais, Schalk van der Merwe</b>  John Thompson a division of ACTOM (Pty) Ltd, South Africa</p> <p><b>Heat Transfer Enhancement in Three-Period Spirally Fluted Tubes for Boiler and Power Generation Applications</b>  <b>Hie Chan Kang, Dong Hyun Shin, Young Ha Jeon, Hong Ju Moon, Seong Gyeong Kim</b>  Kunsan National University, Korea, Republic of (South Korea)</p>

	<p><b>Influence of Air Flow Pressure Loss.</b></p> <p>Gordon Andrews<sup>1</sup>, Ramon Quinonez<sup>2</sup>, Ray Massey<sup>2</sup>, Francis Olanrewaju<sup>2</sup>, Richard Wakeman<sup>3</sup>, Steve Smith<sup>3</sup>, Herodotos Phylaktou<sup>1</sup>, Xueqin Chen<sup>1</sup></p> <p>1: University of Leeds (Retired), United Kingdom; 2: Clean Burner Systems Ltd., Preston, United Kingdom; 3: Nuphalt Ltd., Rugby, United Kingdom</p>	<p><b>Naillis<sup>2</sup>, Dagmar Kuckelberg<sup>2</sup>, Hartmut Krause<sup>1</sup></b></p> <p>1: TU Bergakademie Freiberg, Institute of Thermal Engineering (IWTT), Germany; 2: OWI Science for Fuels gGmbH, Germany</p>	<p><b>PFAS in Municipal Solid Waste Incineration – Results of a Full-Scale Measurement Campaign and Significance for the Industry</b></p> <p><b>Anna Holfelder<sup>1</sup>, Dr.-Ing. Hans-Joachim Gehrman<sup>1</sup>, Dipl.-Ing. Daniel Wohter<sup>2</sup>, Prof. Dr.-Ing. Peter Quicker<sup>2</sup>, Dr.-Ing. Ragnar Warnecke<sup>3</sup>, Prof. Dr.-Ing. Dieter Stapf<sup>1</sup></b></p> <p>1: Karlsruhe Institute of Technology (KIT), Germany; 2: RWTH Aachen University, Germany; 3: Gemeinschaftskraftwerk Schweinfurt GmbH (GKS), Germany</p>
	<p><b>How does H2 Combustion affects industrial processes: a detailed investigation</b></p> <p><b>Jean Caudal, Jean-Baptiste Sénéchal, Mohand Amirat, Görkem Öztarlık, Nicolas Riaute, Chaimae Bariki</b></p> <p>Air Liquide R&amp;D, 1 chemin de la Porte des Loges, 78350 Jouy-en-Josas, France</p>	<p><b>Quantitative Monitoring of Burner Flames through Digital Image Processing</b></p> <p><b>Weicheng Xu, Yong Yan</b></p> <p>Beihang University, China, People's Republic of</p>	<p><b>Advanced Furnace Technologies for Sustainable Silicon Recovery from Fluidized Bed Reactors and Kerf Silicon wastes.</b></p> <p><b>Valdiney Domingos de Oliveira</b></p> <p>Si&amp;Mex Solutions GmbH, Germany</p>
	<p><b>High-efficiency hydrogen-compatible combustion system for radiant tube furnaces</b></p> <p><b>Hassan Mohanna, Sébastien Caillat</b></p> <p>Fives Stein, France</p>	<p><b>Lessons learnt from pilot and industrial scale oxyfuel burner installations</b></p> <p><b>Esin Iplik<sup>1</sup>, Tomas Ekman<sup>1</sup>, Martin Adendorff<sup>2</sup>, Louis Piquard<sup>3</sup>, Anders Lugnet<sup>4</sup>, Detlef Mackenstedt<sup>5</sup></b></p> <p>1: Linde Sverige AB, Sweden; 2: Linde GmbH, Germany; 3: Constellium Technology Center, France; 4: Ovako Hofors, Sweden; 5: Speira Research and Development, Germany</p>	
<p>4:05pm - 4:35pm</p>	<p><b>CB5: COFFEE BREAK</b></p>		
<p>4:35pm - 5:55pm</p>	<p><b>28. H2 4: H2 4</b></p> <p><b>Hydrogen combustion and its influence on corrosion and mechanical behaviour of heat resistant steels</b></p> <p><b>Chris Fritsche<sup>1</sup>, Sven Eckart<sup>1</sup>, Lisa Winter<sup>2</sup>, Lisa-Marie Rymer<sup>2</sup>, Thomas Lampke<sup>2</sup>, Hartmut Krause<sup>1</sup></b></p> <p>1: Professorship for Gas and Heat Technology, Institute of Thermal Engineering, TU Bergakademie Freiberg, Germany; 2: Materials and Surface Engineering Group, University of Technology Chemnitz, Germany</p>	<p><b>29. FUR 4: Furnaces 4</b></p> <p><b>CFD simulation and validation of solid and gas fuels co-injection model</b></p> <p><b>Ahmad Sayed Kassem<sup>1</sup>, Ghassan Ghazal<sup>1</sup>, Rodolfo Santos Ferreira<sup>1</sup>, Vikram Sundara<sup>1</sup>, Harsh Priyadarshi<sup>1</sup>, Phuc Danh NGUYEN<sup>1</sup>, Xianai Huang<sup>2</sup>, Ka Wing NG<sup>2</sup></b></p> <p>1: ArcelorMittal Global R&amp;D, Voie Romaine, BP 30320, 57283 Maizières-lès-Metz Cedex, France; 2: CanmetENERGY, Natural Resources Canada, 1 Haanel Drive, Ottawa, ON K1A 1M1, Canada</p>	<p><b>30. ELE 4: Electrification 4</b></p> <p><b>Replacing LPG with hydrogen or electric heating for secondary Aluminium profile production</b></p> <p><b>Thamali Rajika Jayawickrama, Ulf Sjöström</b></p> <p>Swerim AB, Sweden</p>
	<p><b>Numerical investigation of the operation performance of an additively manufactured H2-capable gas burner in an EAF</b></p> <p><b>Christian Goßrau<sup>1</sup>, Johannes Willkomm<sup>2</sup>, Fabian Krause<sup>3</sup>, Riadh Omri<sup>4</sup>, Manfred Wirsum<sup>1</sup>, Johannes Henrich Schleifenbaum<sup>2</sup>, Hans-Jürgen Odenthal<sup>3</sup>, Sami Elsabagh<sup>4</sup></b></p> <p>1: Institute of Power Plant Technology, Steam and Gasturbines (IKDG), RWTH Aachen University, Mathieustraße 9, 52074 Aachen, Germany; 2: Chair of Digital Additive Production (DAP), RWTH Aachen University, Campus-Boulevard 73, 52074 Aachen, Germany; 3: SMS group GmbH, Am SMS Campus 1, 41069 Mönchengladbach, Germany; 4: Georgsmarienhütte GmbH, Neue Hüttenstraße 1, 49124 Georgsmarienhütte, Germany</p>	<p><b>Virtual Chemical of CH4-H2 configurations for future Large Eddy Simulation of an industrial burner</b></p> <p><b>Malo Hustache<sup>1,2</sup>, Nasser Darabiha<sup>1</sup>, Nicolas Meynet<sup>2</sup>, Benoît Fiorina<sup>1</sup></b></p> <p>1: Université Paris-Saclay, CNRS, CentraleSupélec, Laboratoire EM2C, Gif-sur-Yvette, 91190, France; 2: ENGIE Lab Crigen, Engie, 4 Rue Joséphine Baker, 93240 Stains, France</p>	<p><b>Hybrid heated double-P radiant tubes in Hot Strip Annealing Lines for Steel</b></p> <p><b>Markus Mann<sup>1</sup>, Johannes Trabold<sup>1</sup>, Steven Bullert<sup>2</sup>, Joachim G. Wüning<sup>2</sup>, Michael Keller<sup>3</sup>, Andreas Queck<sup>4</sup>, Bernhart Stranzinger<sup>4</sup></b></p> <p>1: Kanthal GmbH; 2: WS Wärmeprozessstechnik GmbH; 3: thyssenkrupp Steel Europe AG; 4: VDEh-Betriebsforschungsinstitut GmbH</p>
	<p><b>A surrogate model based on Chemical Reactor Networks for hydrogen-enriched industrial furnaces</b></p> <p><b>Shubham Shubham<sup>1</sup>, Daniel Mira<sup>1</sup>, Hassan Mohanna<sup>2</sup>, Sebastien Caillat<sup>2</sup></b></p> <p>1: Barcelona Supercomputing Center, Spain; 2: Fives Stein, France</p>	<p><b>Optimizing Combustion Efficiency and Emission Control in Low-NOx Gas Burners with Hydrogen Blended Natural Gas Combustion</b></p> <p><b>ONUR SALCI<sup>1</sup>, SEMİHA ÖZTUNA<sup>2</sup></b></p> <p>1: ECOSTAR, Türkiye; 2: Trakya University, Türkiye</p>	<p><b>Process development for a hybrid heating concept for highly flexible and low-CO2 billet heating in electric steel mills - FlexHybHeat -</b></p> <p><b>Samarth Kulkarni, Mohamed Abohelwa, Moritz Eickhoff, Christian Wupperman</b></p> <p>RWTH Aachen University, Germany</p>
		<p><b>Time-dependent thermal and chemical behavior of wood waste in a pilot packed-bed combustion reactor</b></p> <p><b>Siebe Borremans<sup>1</sup>, Jo Van Caneghem<sup>1</sup>, Maarten Vanierschot<sup>2,3</sup>,</b></p>	<p><b>A Versatile CFD Framework for cross-sectoral analysis of Carbon-Neutral Furnace Design</b></p> <p><b>Manuel Schieder<sup>1</sup>, Julian Unterluggauer<sup>1</sup>, Tilman Barz<sup>1</sup>, Stefan Puskas<sup>2</sup>, Chritsoph Zauner<sup>1</sup></b></p> <p>1: AIT Austrian Institute of Technology GmbH, Austria; 2: Wienerberger AG, Austria</p>

	<p><b>Effect of oxidizer during steel reheating using hydrogen in a pilot scale walking beam furnace</b></p> <p><b>Joel Falk, Andreas Johnsson</b> SWERIM AB, Sweden</p>	<p><b>Johan De Greef<sup>1</sup></b> 1: Department of Materials Engineering, Group T Leuven Campus, KU Leuven, Leuven, Belgium; 2: Department of Mechanical Engineering, Group T Leuven campus, KU Leuven, Leuven, Belgium; 3: Materials Science, Innovation and Modelling (MaSIM) Research Focus Area, North-West University, Mmabatho 2745, South Africa</p>	
<p><b>6:10pm</b> - <b>6:30pm</b></p>	<p><b>CLOA: CLOSING ADDRESS</b></p>		
<p><b>8:00pm</b></p>	<p><b>FARD: FAREWELL DINNER</b></p>		