

13th European Conference on Industrial Furnaces and Boilers (INFUB-13)

List of Accepted Abstracts

Austria

DEVELOPMENT OF A BURNER TESTING FACILITY

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1 - Montanuniversitaet Leoben; 2 - M.A.L. Metallbau Anlagenservice – Leitungsbau Gesellschaft m.b.H.

IMPROVEMENT OF IMPLICITLY SOLVED, MULTIPLE 1D SIMULATIONS OF INDUSTRIAL FURNACES IN REGARD OF PROPERTY DETERMINATION AND USABILITY

Andreas Rath (Austria)¹; Christoph Spijker (Austria)¹; Harald Raupenstrauch (Austria)¹

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NUMERICAL MODELLING OF AN INDUSTRIAL ROTARY KILN

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Belgium

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Brazil

NUMERICAL INVESTIGATION ON BIOMASS COMBUSTION FOCUSING HIGH-TEMPERATURE DEGRADATION IN RECIPROCATING GRATES

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Canada

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Denmark

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Giovanni Cafaggi (Denmark)¹; Tobias Echberg Nielsen (Denmark)¹; Anne Juul Damø (Denmark)¹; Morten Pedersen (Denmark)²; Typhanie Craipeau (Denmark)²; Hao Wu (Denmark)¹

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France

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Tudor Florea (France)¹; Lionel Prevors (France)¹; Coralie Ruffenach (France)¹; Alice Vieillefosse (France)¹

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Enrico Stella (France)¹; Nasser Darabiha (France)¹; Nicolas Meynet (France)²; Ronan Vicquelin (France)¹; David Honoré (France)³; Carole Gobin (France)³; Benoît Fiorina (France)¹

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PREDICTION OF FLASHBACK IN H₂/CH₄/AIR LAMINAR BURNERS WITH AN UNSTEADY HEAT TRANSFER MODEL COUPLED TO 1D FLAME SIMULATIONS

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Germany

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Jörg Matthes (Germany)¹; Patrick Waibel (Germany)³; Markus Vogelbacher (Germany)¹; Hubert Keller (Germany)¹; Hans-Joachim Gehrman (Germany)²; Dieter Stapf (Germany)²

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Hartmut Mätzing (Germany)¹; Petros Vlavakis (Germany)¹; Dimosthenis Trimis (Germany)¹; Dieter Stapf (Germany)¹

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Mohsen Gharib (Germany)¹; Paul Tischer (Germany)¹; Olaf Schulze (Germany)¹; Martin Gräbner (Germany)¹; Andreas Richter (Germany)¹

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Jannik Böttger (Germany)¹; Till Eckhard (Germany)¹; Christin Pflieger (Germany)¹; Osvalda Senneca (Italy)²; Martin Muhler (Germany)¹; Francesca Cerciello (Germany)¹

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Julian Grothoff (Germany)¹; Ramy Hana (Germany)¹; Lukas Sankowski (Germany)¹; Benedikt Schmetz (Germany)²; Stefan Ruland (Germany)²; Marco Zander (Germany)²; Nico Schmitz (Germany)¹; Tobias Kleinert (Germany)¹; Nicolas Camargo Torres (Germany)¹

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MULTI-FUEL COMBUSTION SYSTEM FOR GASEOUS AND LIQUID BIO AND WASTE FUELS

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Gabriel Roeder (Germany)¹; Yusheng Chen (Germany)¹; Sebastian Weiker (Germany)¹; Stefan Retschitzegger (Austria)²; Kai Schulze (Austria)²; Sebastian Fendt (Germany)¹; Hartmut Spliethoff (Germany)¹

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OVERALL PLANT OPTIMISATION BY AUTOMATIC CONTROLLING WITH ACOUSTIC GAS TEMPERATURE MEASUREMENT – IMPROVEMENT OF EFFICIENCY, EMISSIONS, AND PLANT AVAILABILITY

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PULSATION REACTOR TECHNOLOGY - PRODUCTION OF HIGH-PERFORMANCE MATERIALS

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QUALITY ASSESSMENT OF RDF IN THE KILN FIRING OF CEMENT PLANTS

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ROADMAP FOR AN ENERGY EFFICIENT FIRING OF CERAMICS

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REDUCTION OF NITROGEN OXIDE IN A GRATE FURNACE WITH OSCILLATING COMBUSTION – EXPERIMENTS AND SIMULATIONS

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SIMULATION OF FLAMES IN THE PACKED BED OF SHAFT KILNS

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SIMULATION OF GRANULAR FLOW AND HEAT TRANSFER IN THE BULK BED OF ROTARY KILNS

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SIMULATION OF GRANULAR FLOW AND HEAT TRANSFER IN THE BULK BED OF ROTARY KILNS

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STUDIES ON THE WASTE FEEDING PROCESS IN LARGE-SCALE WASTE INCINERATION PLANTS – EPISODE 2: A SEQUEL INTRODUCING FURTHER IMPROVEMENTS BY APPLYING NEW MEASUREMENT TECHNOLOGY

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TAILORED PRODUCTION AND APPLICATION OF BIOCHAR FOR TAR REMOVAL

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THE ROUTE TO ULTRA-LOW-EMISSION COMBUSTION SYSTEMS IN HYDROGEN OPERATION

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THERMAL RADIATION AT HIGH-TEMPERATURE AND HIGH-PRESSURE CONDITIONS: COMPARISON OF MODELS FOR DESIGN AND SCALE-UP OF ENTRAINED FLOW GASIFICATION PROCESSES

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TRANSIENT CFD SIMULATIONS OF THE IRONMAKING BLAST FURNACE: IMPACT OF CARBON DISSOLUTION AND ENERGY TRANSPORT ON THE FLOW IN THE HEARTH

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Greece

SUBSTITUTION OF PET COKE WITH BIOMASS IN MAGNESIA SECTOR

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India

A SIMPLE MILD BURNER CONFIGURATION FOR LOW CALORIFIC VALUE GASEOUS FUEL
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A SIMPLE MILD CONFIGURATION FOR LOW CALORIFIC VALUE GASEOUS FUELS
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ANALYSIS OF A SCALED-DOWN PULVERIZED COAL COMBUSTOR
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EXPERIMENTAL AND COMPUTATIONAL INVESTIGATIONS ON COMBUSTION OF POWDERED BIOMASS FUELS IN MILD CONDITIONS

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EXPERIMENTAL STUDIES ON NON-PREMIXED METHANE FLAME STABILIZATION REGIMES OVER A POROUS BURNER AND ITS ANALOGY TO COMBUSTION/GASIFICATION REGIMES IN A FIX BED REACTOR

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Iran

NUMERICAL SIMULATION OF COMBUSTION AND HEAT TRANSFER IN A D-TYPE PACKAGE BOILER

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Italy

ACCURATE THERMAL ANALYSIS OF OIL/GAS BOILERS BY INTEGRATED USE OF CFD AND FIELD DATA

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BE4G ULTRA-LOW EMISSIONS BIOMASS BURNER: PROPOSED MODELLING PROCEDURE AND FULL-SCALE TEST RESULTS

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DESIGN AND TESTING OF A MULTI-FUEL INDUSTRIAL BURNER SUITABLE FOR SYN-GASES, FLARE GAS AND PURE HYDROGEN

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ENERGETIC VALORISATION OF TANNERY SLUDGES BY GASIFICATION IN FLUIDISED BED

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EXPERIMENTAL AND NUMERICAL ANALYSIS OF A GAS DIRECTLY-FIRED BATCH FURNACE.

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FLUIDIZED BED CHEMICAL LOOPING PROCESS FOR GREEN SYNGAS PRODUCTION

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GLOBAL CHEMICAL KINETICS OF ASPHALTENES AND RESINS PYROLYSIS FOR PRACTICAL APPLICATIONS

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KINETICS OF COMBUSTION OF LIGNOCELLULOSIC BIOMASS: RECENT RESEARCH AND CRITICAL ISSUES

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MITIGATION OF POLLUTANT EMISSIONS FROM RESIDENTIAL BIOMASS BOILERS

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OPTICAL SOFT SENSING FOR MILD COMBUSTION MONITORING IN A SCALE-BRIDGING BURNER

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TENOVA SMARTBURNERS: FULL HYDROGEN FLEXIBILITY TO REDUCE FURNACES CO₂ FOOTPRINT

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Japan

CHARACTERISTICS OF HYDROGEN FUEL WITH OXYGEN COMBUSTION FOR INDUSTRIAL FURNACES

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EFFECT OF MOISTURE CONTENT OF SOLID WOODY BIOFUEL ON THE BOILERS PERFORMANCE

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FIRING HYDROGEN IN PROCESS BURNERS

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NUMERICAL ANALYSIS OF THE COLD GAS EFFICIENCY IN SEWAGE SLUDGE GASIFICATION

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CFD INVESTIGATION OF ALUMINIUM MELTING FURNACE PERFORMANCE FOR DIFFERENT BURNERS' HEADS

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OPTIMIZATION OF THE RATIO AND FEEDING OF THE O₂/CO₂ MIXTURE TO THE MUNICIPAL SOLID WASTE INCINERATION PROCESS IN A MOVING GRATE BOILER

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PILOT TESTING AND NUMERICAL SIMULATIONS OF THE MULTIFUEL BURNER FOR THE CEMENT KILN

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STUDY ON COMBUSTION PROCESS OF SYNTHESIS FUELS IN FLAMELESS TECHNOLOGY

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Portugal

DEVELOPMENT AND VALIDATION OF A CHEMICAL REACTOR NETWORK MODEL FOR NH₃/H₂/AIR FLAMES IN A SWIRL BURNER TOWARDS A RICH-QUENCH-LEAN IMPLEMENTATION

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NUMERICAL INVESTIGATION OF AN INNOVATIVE FURNACE CONCEPT FOR COIL COATING PROCESS

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NUMERICAL STUDY OF BIOMASS COMBUSTION IN AN INDUSTRIAL GRATE-FIRED BOILER

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ADVANCES IN NANOMATERIALS INDUCED BIOHYDROGEN PRODUCTION USING WASTE BIOMASS

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SYNTHESIS OF DENDRITIC MESOPOROUS SILICA BASED CATALYST AND ITS OXIDATIVE DESULFURIZATION PERFORMANCE ON ARABIAN EXTRA LIGHT OIL

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THE EFFECT OF COLD-END SULFURIC ACID INDUCED CORROSION ON WEATHERING STEEL CORROSIVE RESISTANCE UNDER BOILER CONDITIONS

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South Africa

A FAST THERMAL NON-EQUILIBRIUM EULERIAN-EULERIAN NUMERICAL SIMULATION METHODOLOGY OF A PULVERIZED FUEL COMBUSTOR

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EVALUATION OF PROCESS MODELLING APPROACHES FOR BIOMASS AND PULVERIZED FUEL-FIRED FURNACES AND RADIANT HEAT EXCHANGERS USING CFD

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South Korea

CHARACTERISTICS OF SIMULTANEOUS REMOVAL OF ACIDIC GASES IN FURNACE AND FOULING PREVENTION ON THE SURFACE OF HEAT EXCHANGER

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NUMERICAL STUDIES ON BOILER PERFORMANCE AND INFLUENCE OF BURNER TILT DURING UNEVEN SECONDARY AIR SUPPLY IN A TANGENTIAL-FIRING COAL BOILER

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OPTIMIZATION OF OVERFIRE AIR FOR IMPROVED PERFORMANCE AND NOX REDUCTION IN A COMMERCIAL WALL-FIRING COAL BOILER

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ROTARY BOILER: A NEW EXCHANGER CONCEPT TO MEET THE CHALLENGE OF FUELS WITH A HIGH CONTENT OF CONTAMINANTS.

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Sweden

APPLICATION OF THERMAL PLASMA TORCH FOR STEEL HEAT-TREATMENT FURNACES: RESULTS FROM THE 250 KW PILOT-SCALE TESTS

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HEAT TRANSFER STUDIES OF A 140KW CEMENT ROTARY KILN

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INFLUENCE OF POTASSIUM IN INDUSTRIAL SCALE FLUIDIZED BED COMBUSTORS AND GASIFIERS

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MACHINE LEARNING: A NEW APPROACH TO PREDICT BED MATERIAL STATUS DURING THERMAL CONVERSION OF BIOMASS IN FLUIDIZED BEDS

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NUMERICAL SIMULATION OF A DIRECT REDUCED IRON PRODUCTION PROCESS: COMPARISON BETWEEN FOSSIL-BASED AND RENEWABLE-BASED REDUCTION MIXTURES

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INVESTIGATION OF POLYMER RICH WASTE STREAMS IN AN INDUSTRIAL SIZED FLUIDIZED BED REACTOR

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Switzerland

DETAILED EVALUATION OF TECHNOLOGIES FOR THE PILOT SCALE PYROLYSIS OF PLASTIC WASTES.

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DESIGN AND APPLICATION OF THE KUN-2N TO CLEAN UP THE CARBON ON THE SURFACE OF SPARK PLUGS AND TO IMPROVE ENGINE EXHAUST

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Thailand

DEVELOPMENT OF DESIGN TOOL FOR A SOPHISTICATED WASTE INCINERATION PLANT

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HYDROGEN FOR INDUSTRIAL HIGH-TEMPERATURE PROCESSES - OPPORTUNITIES AND CHALLENGES

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IRON FUEL AS CIRCULAR ENERGY CARRIER IN INDUSTRIAL COMBUSTION SYSTEMS

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MILD METAL COMBUSTION: AN EFFICIENT APPROACH TOWARDS COMMERCIAL UTILIZATION OF CARBON FREE METAL FUELS

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Tunisia

NUMERICAL STUDY OF THE EFFECTS OF GLOBAL EQUIVALENCE RATIO ON TURBULENT SWIRLING NON-PREMIXED FLAME

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Turkey

ENERGY ANALYSIS AND FIELD APPLICATION CHALLENGES IN INDUSTRIAL BATCH FURNACES

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FEED STUDY FOR THE DESIGN OF A 50000TPA PRODUCTION PLANT TO PRODUCE LIME WITH ZERO CO₂ EMISSIONS TO ATMOSPHERE.

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HELPING BUILD A DECARBONISATION TOOL-BOX FOR FURNACE AND BOILER APPLICATIONS IN GLASS, METALS, STEAM REFORMING, CEMENT AND BIOMASS, USING HIGH ACCURACY IN-FURNACE THERMAL IMAGING

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IMPACT OF ANNEALING CYCLE PARAMETERS ON BATCH ANNEALING PROCESS PERFORMANCE IN TINPLATE MANUFACTURING

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MODELLING OF NEW LOW-NOX TECHNOLOGIES IN INDUSTRIAL BURNER APPLICATIONS USING THE REACTOR NETWORK MODEL

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MODELLING SOLID RECOVERED FUEL (SRF) COMBUSTION FOR THERMAL POWER GENERATION

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THE COMBUSTION OF DROPLETS OF LIQUID BIO-FUELS AND FINELY DIVIDED BIOMASS PARTICLES

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FUNDAMENTAL EXPERIMENTAL AND NUMERICAL COMBUSTION NEEDS OF HYDROGEN-CONTAINING FUELS FOR BOILERS AND FURNACES

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