

Ses. Abstract	Author/s	Affiliation
1A Diagnostic and In-Flame Measurement Technique	Chair: Christian Brackmann	Lund University
An optical investigation of diesel-pilot and methane dual-fuel combustion	Zeeshan Ahmad	Aalto University
Camera measurements in cement kilns – impact of alternative fuels on kiln flames	Morten Nedergaard Pedersen	DTU
Investigation of H ₂ O, temperature and potassium in entrained flow biomass combustion – coupling in situ TDLAS with modelling	Florian Schmidt	Umeå University
IACM – On-line measurements of alkali chlorides during combustion	Tomas Leffler	Vattenfall
Development of a camera based system for detection of temperature, soot concentration and equivalence ratio in flames relevant for entrained flow gasification	Yngve Ögren	RISE
1B Fuel flexibility	Chair: Kent Davidsson	RISE
Combustion of thermoplastic particles in a single particle combustor	Mohammadhadi Nakhaei	DTU
Full-scale milling tests of wood pellets for combustion in a suspension-fired power plant boiler	Marvin Masche	DTU
Pelletization of torrefied biomass: a modelling approach	Maria Puig-Arnavat	DTU
Evaluation of rock ilmenite used for oxygen carrier aided combustion (OCAC) during combustion of wood chips in a 12 MW _{th} CFB-boiler	Angelica Corcoran	Chalmers
NOx formation in the Grate-Kiln process – A comparison between pilot and full-scale investigations	Christian Fredriksson	LKAB
2A Reaction modelling and optimization	Chair: Anders Brink	Åbo Akademi
Propane oxidation at high pressure and intermediate temperatures	Hamid Hashemi	DTU
Laminar burning velocity of diluted C ₂ H ₂ + O ₂ + N ₂ mixtures	Vladimir Alekseev	Lund University
Laminar burning velocity of C3 alcohol isomers and propionaldehyde at atmospheric pressure	Gianluca Capriolo	Lund University
Effects of lignocellulosic compounds on the yield, nanostructure and reactivity of soot from fast pyrolysis at high temperatures	Anna Trubetskaya	Umeå University
2B Ash Formation & Mangement	Chair: Peter Arendt Jensen	DTU
Continuous leaching and analysis and high temperature thermodynamic calculations to predict separation of valuable elements from biomass and waste ash streams	Patrik Yrjas	Åbo Akademi
Slag formation during entrained flow gasification. Part 1: Calcium rich bark fuel	Per Holmgren	Umeå University
Slag formation during entrained flow gasification. Part 2: Silicon rich grass fuel with KHCO ₃ additive	Markus Broström	Umeå University
Lead chloride migration and reactivity in deposits containing potassium salts	Jonne Niemi	Åbo Akademi
3A Heterogeneous Sub-Models	Chair: Markus Broström	Umeå University
A heat transfer corrected isothermal model for devolatilization of thermally-thick biomass particles	Hao Luo	DTU
Experimental and numerical investigations of ash behaviour in fixed-bed combustion of woody biomass pellets	Henrik Ström	Chalmers
Development of concentrated solar power and conventional power plant hybrids	Hannu Mikkonen	VTT
Structural analysis of free radicals by Electron spin resonance spectroscopy: Improving gasification char structure through computational calculations from first principles	Anna Trubetskaya	Umeå University
3B Corrosion	Chair: Leena Hupa	Åbo Akademi
Effect of potassium-enriched ilmenite bed particles on corrosion of heat transfer materials in chemical looping combustion	Jan-Erik Eriksson	Åbo Akademi
Suitability of ToF-SIMS to study the effect of oxygen source in high-temperature corrosion	Juho Lehmusto	Åbo Akademi
Increased steam temperature with Steamboost superheater - The effect of the combustion in deposits and high temperature corrosion	Maria Dolores Paz	Chalmers
Protective coatings for the stock in steel reheating furnaces	John Niska	Swerea MEFOS
3C Combustion Concepts	Chair: Angelica Corcoran	Chalmers
Experimental measurements of an industrial scale diesel burner	Joachim Lundberg	USN
Investigation of moist fuel bed combustion in grate furnaces	Narges Razmjoo	Linnaeus university
Presence and behaviour of lead in a full-scale waste wood fired BFB-boiler	Hanna Kinnunen	Valmet
Combustion of fuel mixtures in oil shale fired CFB and PC boilers	Lauri Loo	Tallinn University

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4A CINS Topical Session	Chair: Terese Løvås	NTNU
Large-Eddy simulation of the dual fuel diesel pilot ignition	Ossi Kaario	Aalto University
A hybrid RANS-LEM3D model applied to a turbulent lifted hydrogen flame in vitiated co-flow	Fredrik Grøvdal	NTNU
Eulerian-Lagrangian simulations of spheroidal biomass particles in turbulent flows	Ning Guo	NTNU
an immersed boundary method for flows with evaporating droplets	Giandomenico Lupo	KTH
4B Modelling	Chair: Karin Fröjd	Siemens
Three-dimensional semi-empirical modelling of utility scale circulating fluidized bed furnaces	Markku Nikku	Lappeenranta University
Drag force on an object immersed in a fluidized bed – Experimental characterization by magnetic particle tracking	Anna Köhler	Chalmers
CFD simulations on marine burner flames	Giovanni Cafaggi	DTU
CFD study of a diesel burner for mobile applications	Zahra Musavi	KTH
5A CINS Topical Session	Chair: Terese Løvås	NTNU
Large eddy simulation of a partially premixed industrial gas turbine burner fitted to an atmospheric test rig.	Daniel Moell	Siemens
Advancements in accuracy for flamelet combustion models	Karin Fröjd	Siemens
Ignition characteristics of n-heptane/methanol-air mixture under high temperature and high pressure conditions	Si-yuan Hu	Andritz
Femtosecond two-photon-excited backward lasing of atomic hydrogen in flame	Pengji Ding	Lund University
5B Combustion Chemistry	Chair: Hanna Kinnunen	Valmet
Calculation of the extinction time scale in ultra-lean gas mixtures at dual fuel gas engine conditions using the EDC local extinction approach	Markus Engblom	Åbo Akademi
Influence of S-K interactions on a dual fluidized bed system	Sébastien Pissot	Chalmers
The influence of potassium on gasification reactions	Kent Davidsson	RISE
Biomass ignition in mills and storages – is it explained by conventional thermal ignition theory?	Lars Schwarzer	DTU
6A Diagnostic and In-Flame Measurement Technique	Chair: Johan Hult	MAN
Broad range quantitative in-situ measurement of alkaline metal release during biomass gasification using microwave enhanced laser-induced breakdown spectroscopy	Jan Viljanen	Tampere University
Investigations of hydrogen addition to flames at elevated pressure – optical diagnostics and chemical modelling	Christian Brackmann	Lund University
In-situ laser measurement of oxygen concentration and flue gas temperature utilizing chemical reaction kinetics	Jan Viljanen	Tampere University
Experimental study of premixed CH ₄ /O ₂ spherical flames under positive DC voltage in N ₂ , Ar and Ar/CO ₂ environments	Chao Li	Lund University
Diffuse back-illuminated imaging of soot in an optical reciprocating rapid compression machine	Karl Oskar Pires Bjørgen	NTNU
6B Emission Control	Chair: Kentaro Umeki	LTU
Reduction of natural gas engine power plant emitted particulate matter by catalytic exhaust after-treatment	Jenni Alanen	Tampere University
Characterization of oil shale particle emissions from circulating fluidized bed combustion	Fanni Mylläri	Tampere University
Measurements of NO _x precursor concentration profile above the fuel bed at a full scale W-t-E plant and the effect of precursor speciation on the NO _x formation	Morten Søre Jepsen	Babcock & Wilcox
Soot modelling with CMC using tabulated chemistry	Harry Lehtiniemi	LOGE
SPECIAL SESSION: IFRF	Chair: Fredrik Normann	Chalmers
The IFRF – Past, Present and Future: 70 years of the International Flame Research Foundation	Philip Sharman	IFRF