



Conference program

All times are given for the BST time zone (UTC+1)

4th of April

19:00-21:00 Informal reception (St. Catharine's College)

5th of April

09:00 Welcome address

Session 1 (Chair: Laurent Selle)

09:30 Keynote

Recyclable metal fuels as future zero-carbon energy carrier
Fabien Halter (ICARE – Orléans, FR)

10:15 Contributed talks (1/2)

Reactive molecular dynamics investigation of the oxidation of iron-based nanofuel for next generation low-carbon engines
Kritikos Efstratios, Andrea Giusti

A Lagrangian framework for the numerical simulation of aluminum particle combustion
Antoine Gosset, Sébastien Courtiaud, Laurent Selle

10:45 Coffee Break & Poster session

11:05 Contributed talks (2/2)

Effects of condensed-phase oxidation kinetics on the ignition characteristics of fine iron particles
Xiaocheng Mi, Aki Fujinawa, Jean-Philippe Joel, Jeffrey M. Bergthorson

Towards full understanding of single iron particle combustion
Leon Thijs, Toos Van Gool, Giel Ramaekers, Jeroen Van Oijen, Philip De Goey

The utilisation of Fe_2O_3 , CuO and $\text{SrFeO}_{3-\delta}$ oxygen carriers in chemical looping combustion of biomass char
Kenny Kwong, Joseph Gebers, Alexander Harrison, Ewa Marek

Modeling Effects of Liquid Droplets on Premixed Laminar Acetone Flames
Shiyao Ni, Simone Hochgreb

12:05 Lunch break & Poster session



Session 2 (Chair: Corine Lacour)

13:35 Keynote

Process intensification of CO₂ capture and CO₂ utilization
Kevin Van Geem (Gent University)

14:20 Contributed talks

Numerical Investigation of Heavy Duty Diesel Engine powered by Syngas from Waste Gasification
AshishVashishtha, Mohamed Ahmed Abd El-Sabor, Neves Adriana Cunha, Brian Casey, Kieran Mitchell, David Connolly, Captain Aoife Shanley, Rory F.d. Monaghan

Numerical Validation and Investigation of Fuel-Lean Premixed Catalytic Hydrogen/Air Flame Under Laminar Condition
Mondal Md Nur Alam, Paul Manosh, Nader Karimi, David Jackson

Experimental investigation of ignition delays in RCM for lean H₂/air mixtures under ICE conditions
Nicolas Villenave, Pierre Bréquigny, Fabrice Foucher

Impact of Hydrogen on Soot Formation in Hydrocarbon Diffusion Flames
Chaoxu Chen, Christos Daly, Yannis Hardalupas, Alex Taylor

Stirred reactor calculations of NO_x emission from hydrogen gas turbine combustors
Savvas Gkantonas, Pedro M. De Oliveira, Epaminondas Mastorakos

Interplay between NO_x emissions and flame stabilization in a dual swirl H₂/air burner
Sylvain Marragou, Hervé Magnes, Andrea Aniello, Laurent Selle, Thierry Poinot, Thierry Schuller

Large eddy simulation of swirling technically-premixed H₂-Air flame with accurate NO_x prediction
Tommaso Capurso, Davide Laera, Eléonore Riber, Bénédicte Cuenot

16:05 Coffee Break & Poster session

Session 3 (Chair: Terese Løvås)

16:25 Keynote

Assessing and maximising sustainability trade-offs of bioenergy systems
Mirjam Röder (Aston University)

17:10 Contributed talks

Diffusion-Based Implementation Of The Kernel Smoothing Method Used In The Eulerian-Lagrangian Simulations Of The Biomass Combustion
Jingyuan Zhang, Tian Li, Terese Løvås

Gaz and particle emissions of a domestic boiler fed with wood, miscanthus and straw pellet
Angel Martinez, Corine Lacour, Alexis Coppalle, Jérôme Yon

Pyrolysis kinetics of hydrochars derived from agricultural residues using thermogravimetric analysis
Jean-Noël Semaan, Veronica Belandria, Diakaridia Sangaré, Iskender Gokalp, Stéphane Bostyn

Exhaust recycling as a CO₂ utilisation strategy in integrated biomass gasification power cycles
Michael Greencorn, David Jackson, Justin Hargraves, Souvik Datta, Manosh Paul

18:10 Adjourn

19:30 Conference dinner – St Catharine's College



6th of April

Session 4 (Chair: Christine Rousselle)

09:00 Keynote

Ammonia for Net Zero Combustion
Agustin Valera-Medina (Cardiff University)

09:45 Contributed talks (1/2)

Turbulent Flame Speed Correlations for Pure Ammonia flames and Blends with Methane or Hydrogen
Seif Zitouni, Pierre Bréquigny, Christine Mounaïm-Rousselle

Uncertainty Quantification of the Combustion Characteristics of NH_3/H_2 Fuel Blends
Israfil Soyler, Kai Zhang, Xi Jiang, Nader Karimi

A brief understanding of the chemiluminescence signature of premixed ammonia-air flames
Alka Karan, Guillaume Dayma, Christian Chauveau, Fabien Halter

10:30 Coffee Break & Poster session

10:50 Contributed talks (2/2)

Direct numerical simulation of a premixed turbulent ammonia/hydrogen-air flame in a slot burner configuration
Jessica Gaucherand, Victor Coulon, Victor Xing, Davide Laera, Corentin Lapeyre, Thierry Poinot, Corinna Netzer, Terese Løvås

Effect of Adding Ammonia on the Internal Nanostructure of Soot Particles Formed in Ethylene Laminar Flames
Mohammed Zaher, Mehran Dadsetan, Carson Chu, Murray Thomson

Enabling ultra-lean combustion of ammonia-hydrogen in porous media burners
Guillaume Vignat, Edna Rebeca Toro Garza, Emeric Boigné, Lauren Simitz, Bassem Akoush, Priyanka Muhunthan, Matthias Ihme

High pressure combustion of ammonia blends in an industrial model burner
Mario Ditaranto, Inge Saanum, Jenny Larfeldt, Karl-Johan Nogenmyr

11:50 Lunch break & Poster session

Session 5 (Chair: Alison Tomlin)

12:50 Keynote:

Towards a better understanding of biofuels' oxidation chemistry
Olivier Herbinet (LRGP-Nancy)

13:35 Contributed talks (1/2)

Diethyl ether cool flames: The impact of ozone-seeding on the reactivity
Thomas Panaget, Killyan Potier, Sébastien Batut, Amaury Lahcen, Yann Fenard, Laure Pillier, Guillaume Vanhove

Reaction kinetics of the consumption mechanism of Oxygenated Polycyclic Aromatic Hydrocarbons (OPAHs)
Juan-Carlos Lizardo-Huerta, Sonia Taamalli, Kanika Sood, Laurent Gasnot, Florent Louis, Abderrahman El Bakali, Luc-Sy Tran

Automatic reduction of HEFA bio-jet fuel: From detailed composition to CFD compatible reduced kinetics
Quentin Cazères, Théo Ogier, Thomas Lesaffre, Eléonore Riber, Bénédicte Cuenot



The Effects of Butyl-Based Three-Component Advanced Biofuel Mixtures on Compression Ignition Engine Emissions and Performance

Scott Wiseman, Alison Tomlin, Hu Li, Andrew Ross, Stephen Dooley

14:35 Coffee Break & Poster session

Session 6 (Chair: Simone Hochgreb)

14:55 Keynote:

HyNet, demonstrating the reality of hydrogen as an energy vector

Andy Brown (Progressive Energy)

15:40 Contributed talks

Investigation on the impact of hydrogen addition in a bluff body stabilized turbulent flame using high repetition OH PLIF-PIV and multiscalar measurements by spontaneous Raman scattering

Kuppuraj Rajamanickam, Franck Lefebvre, Carole Gobin, Gilles Godard, Corine Lacour, Bertrand Lecordier, Armelle Cessou, David Honoré

Impact of ignition strategy and back pressure on bluff body flame stabilization for hydrogen enriched mixtures

Tarik Yahou, James R Dawson, Thierry Schuller

DNS analysis of triple flame speed of H₂/air flames at high inlet temperature and high pressure

Andrea Aniello, Davide Laera, Laurent Selle, Thierry Schuller, Thierry Poinot

Stabilization of low-NO_x hydrogen flames on a dual swirl coaxial injector

Maxime Leroy, Clément Mirat, Antoine Renaud, Ronan Vicquelin

An efficient numerical approach for estimating the flame describing function of hydrogen jet diffusion flames

Pietro Giraudi, Aimee S. Morgans, Mark Picciani

A comparison of flame front extraction algorithms in OH-PLIF images of turbulent hydrogen-enriched methane-air flames

Oussama Chaib, Yutao Zheng, Simone Hochgreb, Isaac Boxx

17:10 Farewell address

