



2nd International Workshop on MILD Combustion

8-9 June 2022. Naples

PROGRAM

Oral presentations: 15 min

VENUE

Complesso dei SS. Marcellino e Festo

Largo S. Marcellino 10 – Napoli



MILD website: www.mildcombustion.org

ACKNOWLEDGEMENTS



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PI
Dipartimento
di Ingegneria Chimica,
dei Materiali e della
Produzione Industriale
Università degli Studi
di Napoli Federico II

14:30-15:00	Registration	
15:00-15:15	<p>OPENING</p> <p><i>Alessandro Parente, Giancarlo Sorrentino</i></p>	
15:15-16:45	CONTRIBUTED PRESENTATIONS AND DISCUSSIONS	
	<p>MAIN ROOM</p> <p>Session I: EXPERIMENTS AND THEORY – Part 1</p> <p><i>Chair: Dr. Pino Sabia</i></p>	
15:15	I-1	<p>THERMAL AND FLUID FLOW ANALYSIS OF SWIRLING FLAMELESS COMBUSTION (Online)</p> <p><i>Raid Alwan*, Mazlan Wahid</i></p>
15:30	I-2	<p>ANALYSIS OF THE EFFECT OF WATER ADDITION IN FLAMELESS COMBUSTION STABILITY (Online)</p> <p><i>Yefferson López*, Andrés Colorado, Andrés Amell</i></p>
15:45	I-3	<p>OPERATION REGIMES OF A FLAMELESS COMBUSTOR</p> <p><i>Rishikesh Sampat, Kaushal Dave, Niek Goselink, Ferry Schrijer, Arvind Gangoli Rao*</i></p>
16:00	I-4	<p>EXPERIMENTAL STUDY ON COMBUSTION OF DIMETHYL ETHER AND ITS MIXTURES WITH METHANE/HYDROGEN IN A FLAMELESS FURNACE</p> <p><i>S. Sharma*, A. Parente</i></p>
16:15	I-5	<p>INFLUENCE OF HYDROGEN ADDITION ON THE STABILIZATION OF METHANE MILD COMBUSTION</p> <p><i>M. Ferrarotti, M. Lubrano Lavadera*, A. Parente</i></p>
16:30-16:45	DISCUSSIONS	
16.45-17:00	Coffee Break	
17:00-18:15	CONTRIBUTED PRESENTATIONS AND DISCUSSIONS	
	<p>MAIN ROOM</p> <p>Session II: EXPERIMENTS AND THEORY – Part 2</p> <p><i>Chair: Dr. Pino Sabia</i></p>	
17:00	II-1	<p>EXPERIMENTAL INVESTIGATION OF INLET SWIRL AIR PREHEATING AND DILUTION ON KEROSENE FLAME (Online)</p> <p><i>A. Mardani*, S. A. Kalat*, A. Azimi</i></p>

17:15	II-2	NTC AND LTHR OF BUTANOL ISOMERS AT REDUCED OXYGEN CONCENTRATIONS IN CONSTANT VOLUME COMBUSTION CHAMBER. <i>Jinlin Han*, L.M.T. Somers</i>
17:30	II-3	AMMONIA BLENDS PERFORMANCE IN MILD COMBUSTION <i>G.B. Ariemma, G. Sorrentino, P. Sabia, R. Ragucci, M. de Joannon</i>
17:45	II-4	MILD COMBUSTION: A KINETICALLY STABILIZED PROCESS. THE CASE OF AMMONIA. <i>M.V. Manna*, P. Sabia, R. Ragucci, M. de Joannon</i>
18:00	DISCUSSIONS	
18:30	NETWORKING EVENT – RISTORANTE EUROPEO MATTOZZI	

Thursday, 9 June 2022

2nd International Workshop on MILD Combustion

08:30-09:00	Registration	
09:00-11:00	PRESENTATIONS AND DISCUSSIONS	
	MAIN ROOM Session III: INDUSTRIAL APPLICATIONS <i>Chair: Prof. Alessandro Parente</i>	
09:00	III-1	MILD COMBUSTION INSTABILITIES AND EMISSIONS FOR MICRO GAS TURBINES <i>J. Joseph*, D. Rehman, Michel Delanaye</i>
09:15	III-2	FLOX® TECHNOLOGY FOR THE CLEAN AND EFFICIENT COMBUSTION OF RENEWABLE FUELS <i>E. Cresci, J. Wunning</i>
09:30	III-3	RECENT ADVANCES IN H ₂ FUEL-FLEXIBILITY FOR INDUSTRIAL COMBUSTION SYSTEMS <i>D. Astesiano, A. Della Rocca, E. Malfa</i>
09:45	III-4	MILD COMBUSTION: A SUSTAINABLE WAY TO A GREENER FUTURE <i>A. Baio, S. Losa, M. Bardotti</i>

10:00	III-5	EXPERIENCES FROM 20 YEARS OF USING FLAMELESS OXYFUEL COMBUSTION IN STEEL AND METALS PRODUCTION <i>Joachim Von Scheele</i>
10:15	III-6	MACCHI MULTI-FUEL: DEVELOPING AND TESTING A LOW-NOX INDUSTRIAL BURNER WITH MAXIMUM FUEL FLEXIBILITY, FOR UP TO 100% HYDROGEN OPERATION <i>G. Rossiello, A. Saponaro, L. Morandi</i>
10:30	III-7	DANIELI CENTRO COMBUSTION (DCC)'S ROUTES TO DECARBONIZATION <i>M. Fantuzzi</i>
10:45-11:30	ROUND TABLE ON INDUSTRY PERSPECTIVES AND R&D CHALLENGES	
11.30-11:45	Coffee Break	
11:45-13:00	CONTRIBUTED PRESENTATIONS AND DISCUSSIONS	
	MAIN ROOM Session IV: NUMERICAL MODELING AND POLLUTANTS- Part 1 <i>Chair: Prof. Arvind Gangoli Rao</i>	
11:45	IV-1	COMPARATIVE STUDY OF HOMOGENEOUS NO-REBURNING IN FLAMELESS AND SWIRL FLAME COMBUSTION (Online) <i>Pengfei Li*, Fan Hu, Yaowei Liu, Zhaohui Liu</i>
12:00	IV-2	FILTERED REACTION RATE MODELLING BASED ON LOCAL COMBUSTION MODE CLASSIFICATION (Online) <i>K. Jigjid, Y. Minamoto*, N.A.K. Doan</i>
12:15	IV-3	ON THE DYNAMIC DETERMINATION OF THE MICRO-MIXING CONSTANT IN TRANSPORTED JOINT-COMPOSITION PDF MODELS <i>L. Giuntini*, M. Savarese, C. Galletti, A. Parente</i>
12:30	IV-4	TURBULENT NON-STATIONARY REACTIVE FLOW IN A CEMENT KILN <i>Domenico Lahaye*, Marco Talice</i>
12:45	DISCUSSIONS	

13.00-14:00	Lunch Break
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14:00-15:30	CONTRIBUTED PRESENTATIONS AND DISCUSSIONS	
	MAIN ROOM	
	Session V: NUMERICAL MODELING AND POLLUTANTS- Part 1	
	<i>Chair: Prof. Arvind Gangoli Rao</i>	
14:00	V-1	ENABLING SUSTAINABLE COMBUSTION TECHNOLOGIES AND RENEWABLE FUELS IN INDUSTRIAL APPLICATIONS: THE ROLE OF DATA-INTENSIVE SCIENCE <i>A. Parente*</i>
14:15	V-2	NUMERICAL MODELING OF HYDROGEN COMBUSTION TOWARDS THE DESIGN OF COMBUSTION CHAMBER OPERATED IN MILD REGIME <i>A. Ciesielska*, A. Klimanek, M. Buczak, J. Tumidajski, A. Szlęk, S. Sładek, W. Adamczyk</i>
14:30	V-3	RECOGNITION OF MILD COMBUSTION REGIME IN DILUTED HYDROGEN OXY-COMBUSTION <i>J. Tumidajski*, W. Adamczyk, A. Ciesielska, A. Klimanek, S. Sładek, A. Szlęk</i>
14:45	V-4	PERFORMANCE ASSESSMENT OF NUMERICAL MODELS FOR THE SIMULATION OF A CYCLONIC BURNER FED WITH METHANE <i>L. Giuntini*, C. Genovese, C. Galletti, L. Frascino, G.B. Ariemma, G. Sorrentino, R. Ragucci</i>
15:00	V-5	SELF-UPDATING DIGITAL TWIN OF A SEMI-INDUSTRIAL FURNACE VIA DATA ASSIMILATION APPROACH <i>L. Donato*, C. Galletti, A. Parente</i>
15:15	V-6	CFD MODELLING AND SIMULATIONS OF FLAMELESS COMBUSTION IN A CYCLONIC COMBUSTION SYSTEM <i>C. Chasos*</i>
15:30-15:45	DISCUSSIONS	
15:45-16:45	MAIN ROOM	
	OPEN DATA FOR MILD COMBUSTION. Plenary Discussion	
	<i>Chair: Dott. Raffaele Ragucci</i>	
16.45-17:00	Closing Remarks/Adjourn	
17.00-17:15	Coffee Break	