MONDAY, January 23, 2022

8:00 AM	**Registration**				
08:30	**Opening: Hall - 1**				
09:00	**PLENARY SESSION 1** Hall - 1 ***Ammonia for Net Zero Combustion*** ***Agustin Valera-Medina*** *, Cardiff School of Engineering, U.K* *Chair:*				
09:50	**PLENARY SESSION 2** Hall - 1 ***Role of Hydrogen Combustion in the Decarbonization of Power Sector*** ***Abdurrahamn Khalidi,*** *Chief Technology Officer of GE Power for Middle East, North Africa, South Asia* *Chair:*				
10:40	**Coffee break**				
11:20	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:	**LAMINAR FLAMES** Hall - 2 Chair:	**ENGINE, GAS TURBINE & SPRAY COMBUSTION** Hall - 3 Chair:	**COMBUSTION DIAGNOSTICS** Hall - 4 Chair:	**FIRE AND EXPLOSIONS** Hall - 5 Chair:
11:20	**MCS12-003-TC** AN ACTIVE TURBULENCE GENERATOR FOR TURBULENT COMBUSTION RESEARCH AND APPLICATIONS: FLOW CHARACTERISTICS *L. Saca, S. Mohammadnejad, and S. Kheirkhah*	**MCS12-106-LF** EVALUATION OF EXTENDED REACTION MECHANISMS IN SOOT MODELING IN A VAPORIZED GASOLINE LAMINAR COFLOW DIFFUSION FLAME *Martin Weiss, Rodrigo Demarco, Mijail Littin, Felipe Escudero, Fengshan Liu*	**MCS12-070-EG** INVESTIGATION OF THE EFFECTS OF FUEL ON ISOBARIC COMBUSTION IN A HEAVY-DUTY OPTICAL DIESEL ENGINE *Niraj Panthi, Harsh Goyal, and Gaetano Magnotti*	**MCS12-001-CD** EFFECT OF PARTICLE SIZE DISTRIBUTION AND COMPLEX REFRACTION INDEX OF ALUMINA ON INFRARED ROCKET PLUME SIGNATURES *M. S. Yasar, G. Ozen, N. Selçuk and G. Kulah*	**MCS12-002-FE** ON THE GROWTH OF WILDLAND FIRES FROM A SMALL IGNITION SOURCE *M. Thomsen, A. C. Fernandez-Pello and F. A. Williams*
11:40	**MCS12-134-TC** A PRIORI ANALYSIS OF MULTIMODAL TURBULENT COMBUSTION APPROACH ON A MULTI-REGIME BURNER *L. Angelilli, P. P. Ciottoli, F. E. Hernandez-P ´ erez, M. Valorani, and H. G. Im*	**MCS12-108-LF** EFFECTS OF RADIATION MODEL ON THE SIMULATION OF LAMINAR COFLOW DIFFUSION SOOTING FLAMES AT ELEVATED PRESSURE *Junjun Guo and Hong G. Im*	**MCS12-120-EG** PERFORMANCE OF A METHANOL FUELLED DIRECT-INJECTION COMPRESSION IGNITION HEAVY-DUTY ENGINE UNDER LOW TEMPERATURE COMBUSTION CONDITIONS *Mark Treacy, Leilei Xu, Hesameddin Fatehi and Xue-Song Bai*	**MCS12-019-CD** BIOMASS PARTICLE RADIATION INTERACTION AND THE EFFECT OF SHAPE AND STRUCTURE SIMPLIFICATIONS *M. Koch, S. Pielsticker, and R. Kneer*	**MCS12-033-FE** CHARACTERIZATION OF FLAME SPREAD OVER PMMA USING A TEMPERATURE RECONSTRUCTION METHOD *D. Morrisset, R. M. Hadden, A. Law*
12:00	**MCS12-089-TC** REVISITING MODELLING MIXING TIME SCALES OF LAGRANGIAN FILTERED DENSITY FUNCTION METHODS *J. Yang and A. Kronenburg*	**MCS12-071-LF** SOOT FORMATION IN COMBUSTION OF SPHERICALLY SYMMETRIC ISOLATED FUEL DROPLETS WITH DIFFERENT INITIAL DIAMETERS *A. Nobili, A. Frassoldati, T. Faravelli, and A. Cuoci*	**MCS12-073-EG** A COMPUTATIONAL INVESTIGATION OF KNOCKING TENDENCY IN A HYDROGEN-FUELED SI ENGINE *Hammam Aljabri, Moez Ben Houidi, Xinlei Liu, Moaz Allehaibi, Fahad Almatrafi, Abdullah S. AlRamadan, Balaji Mohan, Emre Cenker, Hong Im*	**MCS12-007-CD** INVESTIGATION ON CORRELATION BETWEEN PAHS AND SOOT IN LAMINAR CO-FLOW DIFFUSION FLAMES OF ANISOLE *Yu Cai, Jiefeng Wan, Biaojie Liu, Hui Du and Lei Zhou*	**MCS12-015-FE** A PRIORI ANALYSIS OF PRESUMED PDF MODELS FOR TURBULENCE-SOOT PRODUCTION INTERACTION IN NON-PREMIXED JET FLAMES *J.L. Consalvi and F. Nmira*
12:20	**MCS12-008-TC** A PRIORI VALIDATION OF A MULTIDIMENSIONAL TURBULENT PREMIXED COMBUSTION MODEL *M. Pfitzner, J. Shin, M. Klein*	**MCS12-109-LF** SOOT PROPERTIES CHARACTERIZATION OF AVIATION JET A-1 LAMINAR NON-PREMIXED COFLOW FLAME *Vincenzo Rosati, Juan José Cruz, Felipe Escudero, Claudio Barrera, Dongping Chen, Andrés Fuentes*	**MCS12-087-EG** NUMERICAL INVESTIGATION OF ENGINE PERFORMANCE AND EMISSION CHARACTERISTICS OF AN AMMONIA/HYDROGEN/N-HEPTANE ENGINE UNDER RCCI OPERATING CONDITIONS *Leilei Xu, Xue-Song Bai*	**MCS12-026-CD** ACCURATE IGNITION DETECTION OF SOLID FUEL PARTICLES USING MACHINE LEARNING *T. Li, Z. Liang, A. Dreizler and B. Bo¨hm*	**MCS12-014-FE** THE EFFECT OF OXYGEN DEPLETION ON SOOT PRODUCTION IN LAMINAR COFLOW ETHYLENE NONPREMIXED FLAMES *A. Bouffard , F. Nmira , J. L. Consalvi*
12:40	**Lunch break**				

15:00	**PLENARY SESSION 3** Hall - 1 ***The Spectral Line Weighted-Sum-of-Gray-Gases (SLW) Model for Prediction of Radiative Transfer in High Temperature Gases*** ***Brent Webb***, *Brigham Young University, USA* *Chair:*				
15:50	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:	**LAMINAR FLAMES** Hall - 2 Chair:	**ENGINE, GAS TURBINE & SPRAY COMBUSTION** Hall - 3 Chair:	**COMBUSTION DIAGNOSTICS** Hall - 4 Chair:	**FIRE AND EXPLOSIONS** Hall - 5 Chair:
15:50	**MCS12-034-TC**	**MCS12-148-LF**	**MCS12-028-EG**	**MCS12-050-CD**	**MCS12-029-FE**
	COMPARISON OF FLAME PROPAGATION STATISTICS IN STATISTICALLY PLANAR TURBULENT PREMIXED FLAMES USING DIRECT NUMERICAL SIMULATIONS WITH DETAILED AND SIMPLE CHEMISTRY AND TRANSPORT	EFFECTS OF N-DECANE SUBSTITUTION ON COUNTERFLOW EXTINCTION OF FORMIC ACID FLAMES	INVESTIGATION OF AN ATMOSPHERIC GAS TURBINE MODEL COMBUSTOR WITH LARGE-EDDY SIMULATION USING FINITE-RATE CHEMISTRY	SIMULTANEOUS BTEX SENSING IN A SHOCK TUBE	THE DISPUTED ROLE OF LONGITUDINAL SOLID CONDUCTION IN OPPOSED FLAME SPREAD ON THERMALLY THIN MATERIALS
	F.B. Keil, N. Chakraborty and M. Klein	*Adamu Alfazazi, Et-touhami Es-sebbar, Jiajun Li, S. Xiayuan Zhang, Marwan Abdullah , Mourad Younes , Mani Sarathy , Bassam Dally*	*J. Eigemann, K. Roderigo, P. Gruhlke, C. Beck and A. M. Kempf*	*Mhanna Mhanna, Mohamed Sy, Ali Elkhazraji, Aamir Farooq*	*Subrata Bhattacharjee, Michael Delichatsios*
16:10	**MCS12-036-TC**	**MCS12-147-LF**	**MCS12-039-EG**	**MCS12-142-CD**	**MCS12-011-FE**
	EVOLUTION OF FLAME DISPLACEMENT SPEED WITHIN FLAME FRONT IN DIFFERENT REGIMES OF PREMIXED TURBULENT COMBUSTION	METHANE/HYDROGEN PEROXIDE LAMINAR DIFFUSION OPPOSED-FLOW FLAME	SOOT FORMATION IN SWIRL-STABILIZED SPRAY COMBUSTION OF JET A-1 DOPED WITH N-PENTANOL IN A LABORATORY GAS TURBINE COMBUSTOR	SELECTIVE BTEX DETECTION USING LASER ABSORPTION SPECTROSCOPY IN THE CH BENDING MODE REGION	EFFECTS OF FUEL SOOTING PROPENSITY ON THE THERMAL AND BURNING CHARACTERISTICS OF LABSCALE POOL FIRES
	N. Chakraborty, C. Dopazo, H. Dunn and U. Ahmed	*Jiajun Li, Adamu Alfazazi, Bassam Dally*	*Rahul B. Vishwanath, Peter A. Carniglia, Jacob K. Weber and Omer L. Gülder*	*Ali Elkhazraji, Joury Aldhawyan, Mhanna Mhanna, Mohamed Sy, Mohammad Adil, Mohammad Khaled Shakfa and Aamir Farooq*	*R. Mazurek da Silva, S. Thion, F. Nmira and J.L. Consalvi*
16:30	**MCS12-043-TC**	**MCS12-096-LF**	**MCS12-075-EG**	**MCS12-150-CD**	**MCS12-128-FE**
	FLAME SURFACE DENSITY AND ARTIFICIALLY THICKENED FLAME COMBUSTION MODELS APPLIED TO A TURBULENT PARTIALLY-PREMIXED FLAME	ANISOLE MATURITY CHARACTERIZATION IN A LAMINAR COFLOW DIFFUSION FLAME	STABILITY EFFECT OF THE PILOT BURNER IN AN INDUSTRIAL GAS TURBINE AND ITS EMISSIONS	ACETYLENE DETECTION IN ETHYLENE/AIR FLAMES USING MID-INFRARED LASER POLARIZATION SPECTROSCOPY AT ATMOSPHERIC PRESSURE	EXPLORATORY STUDY OF THE IMPACT OF THE TURBULENCE MODEL ON FLAME EXTINCTION WITH AN EDM AND EDC/FINITE- RATE APPROACH FOR A LINE BURNER CONFIGURATION
	S. Lomada, M. Klein and M. Pfitzner	*C. Barrera, V. Castro, F. Escudero, J.J. Cruz, I. Verdugo, J. Yon, A.Fuentes*	*C. Allouis, A. Amoresano, M. Karaca, G. Quaremba, A. Saponaro*	*A. Wanxia Zhao, B. Bassam B. Dally, and C. Zeyad T. Alwahabi*	*Jeri At Thabari, Georgios Maragkos, Bart Merci*
16:50	**Coffee break**				
17:20	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:	**LAMINAR FLAMES** Hall - 2 Chair:	**ENGINE, GAS TURBINE & SPRAY COMBUSTION** Hall - 3 Chair:	**COMBUSTION DIAGNOSTICS** Hall - 4 Chair:	**FIRE AND EXPLOSIONS** Hall - 5 Chair:
17:20	**MCS12-032-TC**	**MCS12-139-LF**	**MCS12-092-EG**	**MCS12-085-CD**	**MCS12-137-FE**
	DIFFERENTIAL DIFFUSION EFFECTS IN THE NEAR FIELD OF NH3-H2-N2 JET DIFFUSION FLAMES AT ELEVATED PRESSURE	A FILTER-BASED APPROACH FOR THE MEASUREMENT OF SOOT OPTICAL PROPERTIES	ON THE AERODYNAMIC INSTABILITY IN A SWIRL COMBUSTOR OPERATING WITH LEAN PREMIXED HYDROGEN-ENRICHED METHANE BLEND	EXPERIMENTAL INVESTIGATION OF THE DYNAMICS OF PARTIALLY PREMIXED HYDROGEN FLAMES IN A LEAN DIRECT INJECTION (LDI) COMBUSTOR	BLOWOFF AT THE LEADING EDGE OF A VERTICAL BOUNDARY LAYER DIFFUSION FLAME ESTABLISHED OVER A 3D PRINTED POROUS BURNER
	H. Tang, C. Yang, G. Wang, Y. Krishna, W. Roberts, T. Guiberti, and G. Magnotti	*F.Picca, M. Cascone, F. Sasso, M. Commodo, P.Minutolo, A. D'Anna*	*S. Qiu, E. Karlis, A. M. K. P. Taylor and Y. Hardalupas*	*Chinonso Ezenwajiaku, Midhat Talibi, Mark Picciani, Andrea Ducci and Ramanarayanan Balachandran*	*V. Gupta, T. Xiao, M.J. Dunn, J.L. Torero, A.R. Masri*
17:40	**MCS12-123-TC**	**MCS12-149-LF**	**MCS12-088-EG**	**MCS12-107-CD**	**MCS12-069-FE**
	DIFFERENTIAL DIFFUSION MODELLING OF A LIFTED H2 FLAME IN VITIATED COFLOW USING LES-FLAMELET APPROACH	LOW-PRESSURE ETHYLENE/AIR LAMINAR PREMIXED FLAMES: CHARACTERISATIONS AND SOOTS DIAGNOSTICS	PILOT IMPACT ON SWIRLING COMBUSTION CHARATERISTICS OF PREMIXED METHANE/AIR FLAME STRUCTURE	DYNAMIC RANGE GATE OF TIRE-LII MEASUREMENTS FOR SOOT TEMPERATURE	MODELLING AND OPTIMISATION OF EXTINCTION ACTIONS FOR WILDFIRE SUPPRESSION
	G. Ferrante , B. Kruljevic , and I. Langella	*S. Algoraini, Z. Sun, B. B Dally, Z. T. Alwahabi*	*F. Pignatelli, A. A. Subash, R. Z. Szasz, X. S. Bai, M. Alden, D. Lo¨rstad, P. Petersson*	*V. Castro, N. Gutiérrez, J.J. Cruz, R. Demarco, M. Littin, F. Escudero, J. Yon, F. Liu, A. Fuentes*	*J. E. Petersen, S. Kapur, S. Gkantonas, E. Mastorakos, and A. Giusti*
18:00	**MCS12-062-TC**	**MCS12-053-LF**	**MCS12-126-EG**	**MCS12-125-CD**	**MCS12-090-FE**
	SHOCK TUBE EXPERIMENTS ON FLAME PROPAGATION REGIMES FOR HYDROGEN-AIR MIXTURES AT CRYOGENIC TEMPERATURES	MULTIPLE STRUCTURES AND TRANSITION MECHANISMS OF LAMINAR FUEL-RICH ETHANOL/AIR COUNTERFLOWING SPRAY FLAMES	A HYBRID ENERGY SYSTEM BASED ON GAS TURBINE, SUPERCRITICAL CO2BRAYTON CYCLE AND ORC FOR MARINE APPLICATIONS: A PERFORMANCE ANALYSIS	THE STUDY OF A PREMIXED AIR/KEROSENE TURBULENT FLAME	FLAME SPREADING IN CONFINED SPACES
	M. Kuznetsov, A. Denkevits, A. Friedrich, and A. Veser	*Z. Ying and E. Gutheil*	*F. Reale, R. Calabria and P. Massoli*	*R. Ogabi , B. Manescau and K. Chetehouna*	*V. N. Papadogianni, A. Romeos, A. Giannadakis, K. Perrakis, Th. Panidis*
18:20	End of the day				

TUESDAY, January 24, 2022	
08:30	**PLENARY SESSION 4** Hall - 1 ***Industrial High-Temperature Processes - Development of Alternative Firing Strategies*** ***Klas Andersson***, *Chalmers University of Technology, Sweden* *Chair:*
09:20	**Flash Presentations** Hall - 1 *Chair:*
10:00	**WIP + Coffee break**
11:00	**EXCURSION with Light lunch box + Dinner**
20:00	End of the day

WEDNESDAY, January 25, 2022

08:30	**PLENARY SESSION 5** Hall - 1 ***Developing Detailed Chemical Kinetic Mechanisms for Fuel Combustion*** ***Henry Curran***, *National University of Ireland, Ireland* *Chair:*				
10:40	**Coffee break**				
09:20	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:	**LAMINAR FLAMES** Hall - 2 Chair:	**ENGINE, GAS TURBINE & SPRAY COMBUSTION** Hall - 3 Chair:	**REACTION KINETICS** Hall - 4 Chair:	**FIRE AND EXPLOSIONS** Hall - 5 Chair:
09:20	**MCS12-068-TC** A GENERATIVE-ADVERSARIAL NETWORK (GAN) APPROACH FOR GENERATING FLAME TRANSITION IMAGES IN MODEL COMBUSTORS *Gautham Krishnamoorthy and Nghia Duc Tin Nguyen*	**MCS12-022-LF** LIFTED EDGE FLAMES: SYMMETRIC AND NON-SYMMETRIC CONFIGURATIONS *V.N. Kurdyumov and C. Jiménez*	**MCS12-045-EG** CORRECTION METHODS FOR EXCHANGE SOURCE TERMS IN UNSTRUCTURED EULER-LAGRANGE SOLVERS WITH POINT-SOURCE APPROXIMATION *T. Lesaffre, A. Pestre, E. Riber, and B. Cuenot*	**MCS12-017-RK** IGNITION DELAY TIME OF C1 – C7 NATURAL GAS BLENDS AT THE INTERMEDIATE AND HIGH TEMPERATURE REGIME: EXPERIMENTAL AND CORRELATION *A. Abd El-Sabor Mohamed, Sajjad Yousefian, Rory F.D. Monaghan, Gilles Bourque, Henry Curran*	**MCS12-143-FE** DIRECT NUMERICAL SIMULATION OF PULSATING TO UNIFORM FLAME SPREAD ACRESS ALCOHOLM POOL *Baopeng Xu and Jennifer X Wen*
09:40	**MCS12-082-TC** A DATA-DRIVEN, PHYSICS-INFORMED FRAMEWORK FOR SUBGRID COMBUSTION CLOSURE USING ARTIFICIAL NEURAL NETWORK *S. Iavarone, A. Pe´quin, N. Swaminathan and A. Parente*	**MCS12-079-LF** EXPERIMENTAL AND NUMERICAL STUDY OF LAMINAR FLAME SPEED OF AMMONIA/ETHANOL AND AMMONIA AT HIGH PRESSURE AND TEMPERATURE *R. Pelé, G. Dayma, C. Mounaim-Rousselle, P. Brequigny, and F. Halter*	**MCS12-110-EG** ONE DIMENSIONAL MODELING OF DETONATION INTERACTIONS WITH SPRAYS *R. Bielawski, and V. Raman*	**MCS12-025-RK** CONSTRUCTION OF A SMALL-SIZED SIMPLIEFIED CHEMICAL KINETICS MODEL FOR THE SIMULATION OF N-PROPYLCYCLOHEXANE COMBUSTION PROPERTIES *Hossein.S.Saraee, Kevin.J.Hughes, Mohamed.Pourkashanian*	**MCS12-122-FE** A FULLY DYNAMIC APPROACH FOR TURBULENCE AND COMBUSTION MODELLING: SYSTEMATIC ASSESSMENT STUDY ON FIRE PLUMES WITH VARIABLE HEAT RELEASE RATE *G. Maragkos and B. Merci*
10:00	**MCS12-100-TC** APPLICATION OF AN ARTIFICIAL NEURAL NETWORK TO SUB-FILTER DENSITY FUNCTION ESTIMATION FOR TURBULENT FLAMES SIMULATION *H. Yang, S. Iavarone, J.C. Massey, and N. Swaminathan*	**MCS12-023-LF** FLAME STABILIZATION IN NARROW CHANNELS BY A HIGHLY CONDUCTIVE WALL SEGMENT *V.N. Kurdyumov and C. Jime´nez*	**MCS12-111-EG** GENERATIVE ADVERSARIAL NETWORKS FOR MODELLING FUEL SPRAYS *C. Ates, F. Karwan, M. Okraschevski, R. Koch, and H.-J. Bauer*	**MCS12-010-RK** EXPERIMENTAL ASSESSMENT OF METHANOL CHEMICAL KINETIC MECHANISM WITH FOCUS ON FORMALDEHYDE FORMATION AND CONTROL *Ariel Sharon and Yeshayahou Levy*	**MCS12-101-FE** IGNITION OF WILDLAND FUELS EXPOSED TO A TIME-DECREASING INCIDENT HEAT FLUX *F. Valenzuela, J.I. Rivera, F. Ebensperger, C. Alvarez, P. Reszka, F. Auat Cheein, A. Fuentes*
10:20	**MCS12-044-TC** STATISTICAL BEHAVIOUR OF SCALAR VARIANCE TRANSPORT DURING PREMIXED FLAME-WALL INTERACTION IN TURBULENT BOUNDARY LAYERS *Sanjeev Kr. Ghai, Umair Ahmed , Nilanjan Chakraborty*	**MCS12-081-LF** ENTROPY GENERATION ASSESSMENT OF METHANE-NITROUS OXIDE DIFFUSION FLAMES IN A TRIPLE-PORT BURNER *Po-Hung Lin, Yueh-Heng Li, Wen-Yuan Tsai, and Chao-Wei Huang*	**MCS12-127-EG** UNCERTAINTY QUANTIFICATION ANALYSIS OF RANS OF SPRAY SWIRLING JETS UNDERGOING VORTEX BREAKDOWN *J. Liberatori, R. Malpica Galassi, M. Valorani and P.P. Ciottoli*	**MCS12-009-RK** THERMAL DECOMPOSITION OF LOW-DENSITY POLYETHYLENE: MODEL DEVELOPMENT AND PARAMETERIZATION OVER GASIFICATION EXPERIMENTS *Alain Coimbra, Johan Sarazin, Serge Bourbigot, Guillaume Legros, Jean-Louis Consalvi*	**MCS12-103-FE** A SIMPLER TRACTABLE CONTOUR TECHNIQUE TO MODEL THERMAL RADIATION FROM BUOYANT DIFFUSION FLAMES *P. Pinto, M. Littin, J. I. Rivera, G. Severino, J. J. Cruz, A. Fuentes*
10:40	**Coffee break**				
11:20	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:	**HETEROGENEOUS COMBUSTION AND PYROLYSIS** Hall - 2 Chair:	**ENGINE, GAS TURBINE & SPRAY COMBUSTION** Hall - 3 Chair:	**REACTION KINETICS** Hall - 4 Chair:	**FIRE AND EXPLOSIONS** Hall - 5 Chair:
11:20	**MCS12-064-TC** THE EFFECT OF MIXTURE INHOMOGENEITY AND TURBULENCE ON THE FLAME FRONT CURVATURE AND FLAME SURFACE DENSITY OF TURBULENT PLANAR FLAMES OF NATURAL GAS *H.M. Al-Bulqini, M.M.A. Ahmed, A.M. Elbaz , M.F. Zayed, W.L. Roberts, Mrinal Juddoo, A.R. Masri, M.S. Mansour*	**MCS12-004-HC** MODELLING PYROLYSIS KINETICS OF EXTRACTED BIOMASS COMPONENTS WITH THE BIO-CPD MODEL *S. Pielsticker and R. Kneer*	**MCS12-095-EG** DEVELOPING A VALIDATED SIMULATION METHODOLOGY FOR A SOOT-FORMING TURBULENT SWIRL STABILIZED FLAME IN A SPRAY COMBUSTOR *D. İmamoğlu, Ö. Ertunç, Altuğ Başol, M. Pınar Mengüç*	**MCS12-049-RK** OXIDATION OF POLYCYCLIC AROMATIC HYDROCARBONS: EVIDENCE OF SIMILARITIES IN THERMOCHEMICAL PROPERTIES AND REACTION PATHS *N. Sebbar, H. Bockhorn and D. Trimis*	**MCS12-055-FE** SEISMIC CONDITION EFFECT ON FIRE STRUCTURE AND BEHAVIOR *Tzu-Yan Tseng and Kuang-Chung Tsai*
11:40	**MCS12-076-TC** TOWARDS UNDERSTANDING THE IMPROVEMENT IN STABILITY FOR FUELS WITH INHOMOGENEOUS INLETS *A.R.W. Macfarlane, M.J. Dunn, and A.R. Masri*	**MCS12-056-HC** PYROLYSIS OF COMPLEX-SHAPED SINGLE WOOD CHIPS – 3D DEM SIMULATION AND A COMPARISON WITH EXPERIMENTS *B. Jaeger, E. Illana, S. Wirtz, V. Scherer and J. Behling*	**MCS12-097-EG** DIRECT NUMERICAL SIMULATION OF SPRAYSYN BURNER: IMPACT OF LIQUID SOLVENT *A. Abdelsamie, H. Wiggers, F.E. Kruis, and D. The´venin*	**MCS12-027-RK** THE OXIDATION OF METHANE DOPED WITH H2S ADDITION *S. Arunthanayothin, O. Herbinet and F. Battin-Leclerc*	**MCS12-154-FE** LI-ION BATTERIES – HAZARDS, MODELING, MEASUREMENTS, AND MITIGATION *James Quintiere*

12:00	**MCS12-151-TC**	**MCS12-065-HC**	**MCS12-018-EG**	**MCS12-152-RK**	
	CHARACTERISTICS OF AMMONIA/HYDROGEN/NITROGEN NON-PREMIXED BLUFF BODY STABILIZED FLAMES	INFLUENCE OF PYROLYSIS BACKGROUND GAS ON THE GASIFICATION CHARACTERISTICS OF SUGAR BEET PULP BIOCHAR	EXPERIMENTAL STUDY OF EVAPORATION CHARACTERISTICS OF SUSPENDED METHANOL AND ETHANOL DROPLET	THE COMBUSTION CHEMISTRY OF AMMONIA AND AMMONIA/HYDROGEN: A COMPREHENSIVE MODELING STUDY	
	Adamu Alfazazi, Ayman Elbaz, Jiajun Li, Bassam Dally	*Alican Akgül, Süleyman Şener Akın, and Feyza Kazanç*	*Hesham Elkady, Rami Zewail, Shinsuke Mori, Shinichi Ookawara, and Ahmed E. Elwardany*	*Yuxiang Zhu, Henry Curran and Chong-Wen Zhou*	
12:20	**MCS12-121-TC**		**MCS12-051-EG**	**MCS12-153-RK**	
	NUMERICAL ANALYSIS OF THE NITROGEN DILUTED HYDROGEN LIFTED FLAME EMANATING FROM CIRCULAR, SQUARE AND RECTANGULAR NOZZLES		EULER-LAGRANGE NUMERICAL SIMULATION OF A KEROSENE DROPLET MIST IGNITION IN AIR USING ANALYTICALLY REDUCED CHEMISTRY	DEVELOPMENT OF COMPREHENSIVE KINETIC MODELS OF AMMONIA/METHANOL IGNITION USING REACTION MECHANISM GENERATOR (RMG)	
	J. Stempka and A. Tyliszczak		*A. Pestre, T. Lesaffre, Q. Caze`res, E. Riber and B. Cuenot*	*S. Nadiri, B. Shu, C. F. Goldsmith , R. Fernandes*	
12:40	**Lunch break**				
15:00	**PLENARY SESSION 6** Hall - 1 ***Combustion Stability: Effect of the Mixing Field Structure*** ***Mohy S. Mansour***, *Cairo University, Egypt* *Chair:*				
15:50	**Coffee break**				
16:20	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:	**HETEROGENEOUS COMBUSTION AND PYROLYSIS** Hall - 2 Chair:	**ENGINE, GAS TURBINE & SPRAY COMBUSTION** Hall - 3 Chair:	**REACTION KINETICS** Hall - 4 Chair:	**CO2 CAPTURE PROCESSES AND NEW COMBUSTION CONCEPTS** Hall - 5 Chair:
16:20	**MCS12-133-TC**	**MCS12-074-HC**	**MCS12-104-EG**	**MCS12-058-RK**	**MCS12-060-CC**
	CHARACTERISTICS OF TURBULENT PREMIXED AMMONIA FLAME AT DIFFERENT COMBUSTION REGIMES	XYLAN FAST PYROLYSIS: AN EXPERIMENTAL AND MODELLING STUDY OF PARTICLE CHANGES AND VOLATILES RELEASE	EXPERIMENTAL AND NUMERICAL INVESTIGATION OF METHANE COMBUSTION IN A HCCI ENGINE UNDER ENRICHED OXYGEN CONDITIONS	NORMAL BUTANE OXIDATION: MEASUREMENTS OF AUTOXIDATION PRODUCTS IN A JET-STIRRED REACTOR	ANALYSIS OF THE IMPACT OF RDF COMBUSTION ON CEMENT CLINKER QUALITY IN A SUPERSTOICHIOMETRIC OXY-FUEL ATMOSPHERE BY CFD SIMULATIONS
	R. Khamedov, W. Song, F E. Hernandez P ´ erez and H.G.Im	*F. Cerciello, E. Freisewinkel, A. Coppola, C. Ontyd, M. Schiemann, P. Salatino, C. Allouis, V. Scherer, and O. Senneca*	*S. Spano, M. Savarese, A. Parente, F. Contino, and H. Jeanmart*	*Z. Dbouk, N. Belhadj, M. Lailliau, R. Benoit, G. Dayma, P. Dagaut*	*R. Streier, I. Veckenstedt, T. Deck, K. Lampe and V. Scherer*
16:40	**MCS12-136-TC**	**MCS12-105-HC**	**MCS12-038-EG**	**MCS12-086-RK**	**MCS12-098-CC**
	THE MIXING FIELD AND FLAME STRUCTURE NEAR THE REACTION ZONE OF TURBULENT PLANAR FLAMES AT DIFFERENT LEVELS OF MIXTURE INHOMOGENEITY	CFD SIMULATION OF BIOMASS COMBUSTION IN AN INDUSTRIAL CIRCULATING FLUIDIZED BED FURNACE	BAYESIAN MODEL CALIBRATION USING HIGH-FIDELITY SIMULATIONS OF A MACH 8 SCRAMJET ISOLATOR AND COMBUSTOR	EXPERIMENTAL INVESTIGATION OF NO IMPACT ON IGNITION DELAYS FOR LEAN H2/AIR MIXTURE UNDER ICES CONDITIONS	PILOT TESTING OF THE INDIRECTLY HEATED CARBONATE LOOPING PROCESS FOR CO2 CAPTURE FROM LIME INDUSTRY
	Alaa M. Khedr, Ayman M. Elbaz , Mahmoud M.A. Ahmed , Mohamed F. Zayed , Mohamed S. Senosy, Hatem Kayed , Stephan Kruse , Yihua Ren , Heinz Pitsch , Mohy S. Mansour	*Miao Yang, Shenghui Zhong, Shijie Xu, Leilei Xu, Peter Ottosson, Hesameddin Fatehi, and Xue-Song Bai*	*Michael Ullman and Venkat Raman*	*N. Villenave, G. Dayma, B. Moreau and F. Foucher*	*C. Hofmann, M. Greco-Coppi, J. Ströhle and B. Epple*
17:00	**MCS12-138-TC**	**MCS12-102-HC**	**MCS12-066-EG**	**MCS12-094-RK**	**MCS12-016-CC**
	EXPERIMENTAL STUDY OF CAVITATION EFFECT INSIDE A NOZZLE ON A NEXGEN BURNER FLAME	TRANSMISSION ELECTRON MICROSCOPIC ANALYSIS OF COPPER OXIDE NANOPARTICLES IN THE JET A-1 DEPOSITS CONTAINING SOLID AND HOLLOW CARBON SPHERES	A THERMOACOUSTIC INSTABILITY PRECURSOR BASED ON THE ACOUSTIC FLUX AT THE COMBUSTION CHAMBER INLET	IDENTIFICATION OF AUTO-IGNITION REGIMES FROM A NORMALISED RESIDENCE TIME TRANSPORT EQUATION IN HETEROGENEOUS MIXTURE	ON THE BEHAVIOUR OF LIMESTONE SORBENTS IN DUAL INTERCONNECTED FLUIDISED BEDS FOR SORPTION- ENHANCED GASIFICATION APPLICATION
	L. Lamoot, B. Manescau , K. Chetehouna , N. Gascoin	*Pooja Sharma*	*T. Morinie`re, A. Cayre, L. Selle, T. Poinsot, and T. Schuller*	*Zakaria Bazhar, Zakaria Bouali, Vincent Robin*	*Antonio Coppola, Fabio Montagnaro and Fabrizio Scala*
17:20	End of the day				
18:30	Gala Dinner				

THURSDAY, January 26, 2022					
08:30	**PLENARY SESSION 7** Hall - 1 ***Metal Combustion for Chemical Looping CO2 Capture*** ***Ahmed Ghoniem*** *, Massachusetts Institute of Technology, USA* *Chair:*				
10:40	**Coffee break**				
09:20	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:	**HETEROGENEOUS COMBUSTION AND PYROLYSIS** Hall - 2 Chair:	**STATIONARY COMBUSTION SYSTEMS and ENVIRONMENTAL IMPACT** Hall - 3 Chair:	**REACTION KINETICS** Hall - 4 Chair:	**CO2 CAPTURE PROCESSES AND NEW COMBUSTION CONCEPTS** Hall - 5 Chair:
09:20	**MCS12-035-TC**	**MCS12-057-HC**	**MCS12-047-SC**	**MCS12-063-RK**	**MCS12-040-CC**
	MIXING AND FLAME STRUCTURE STUDY OF INVERSE SWIRL DIFFUSION FLAMES	EXPERIMENTAL STUDY OF THE EFFECTS OF STEAM INJECTION ON LOWER HEATING VALUE AND TAR CONTENT IN TWO-STAGE DOWNDRAFT WOOD GASIFICATION	PARAMETER ESTIMATION USING A GPR-BASED ROM AND SPARSE SENSING: APPLICATION TO A METHANE/AIR LIFTED JET FLAME	EFFECT OF BIPHENYL, ACETYLENE AND CARBON DIOXIDE ON BENZENE PYROLYSIS AT INTERMEDIATE TEMPERATURES	ON THE APPLICABILITY OF DAMKÖHLER'S HYPOTHESES IN HOMOGENOUS MIXTURE MODERATE OR INTENSE LOW-OXYGEN DILUTION (MILD) COMBUSTION
	A.M. Elbaz, M.M.A. Ahmed, Alfaisal M. Albalawi, and W.L. Roberts	*A. Rouanet and H. Jeanmart*	*A. Procacci, L. Donato, R. Amaduzzi, C. Galletti, A. Coussement, A. Parente*	*Mohammed Alabbad, Ribhu Gautam, Baqer Aljaman, Palani Arudra, Ahmad AlAhmadi, and S. Mani Sarathy*	*H.S. Awad, K. Abo Amsha, U. Ahmed, N. Chakraborty*
09:40	**MCS12-061-TC**	**MCS12-130-HC**	**MCS12-114-SC**	**MCS12-031-RK**	**MCS12-041-CC**
	EFFECTS OF SWIRL AND ENCLOSURE ON FORCED PREMIXED COMBUSTION DYNAMICS	THERMAL AND CATALYTIC PYROLYSIS OF REAL PLASTIC SOLID WASTE AS A SUSTAINABLE STRATEGY FOR CIRCULAR ECONOMY	IMPACT OF OXYGEN ENRICHMENT AND CO2-H2O DILUTION ON STABILITY AND POLLUTANT EMISSIONS OF NON-PREMIXED SWIRLING TURBULENT FLAMES	EXPERIMENTAL AND MODELING STUDY OF THE OXIDATION OF FENCHONE, A HIGH-ENERGY DENSITY FUEL-ADDITIVE	FLAME SELF-INTERACTIONS IN MILD COMBUSTION OF HOMOGENOUS AND INHOMOGENEOUS MIXTURES
	D. P. Kallifronas, J. C. Massey, Z. X. Chen, R. Balachandran and N. Swaminathan	*M. Urciuolo, R. Migliaccio, R. Chirone, P. Bareschino, E. Mancusi, F. Pepe, and G. Ruoppolo*	*T. Boushaki, H. Zaidaoui, S. Chakchak, A. Ghabi, A.F. Ghoniem*	*L. Boualem, Z. Serinyel, A. Nicolle, M. Lailliau, P. Dagaut and G. Dayma*	*H.S. Awad, K. Abo Amsha, U. Ahmed, N. Chakraborty*
10:00	**MCS12-046-TC**	**MCS12-048-HC**	**MCS12-124-SC**	**MCS12-113-RK**	**MCS12-067-CC**
	EXPERIMENTAL AND NUMERICAL INVESTIGATION OF DYNAMIC AND SCALAR BEHAVIOR OF TURBULENT SWIRLED FLAME	COMBUSTION OF CONDENSED COMBUSTION PRODUCTS OF BORON-CONTAINING SOLID PROPELLANTS IN AIR	ON THE STABILITY AND CHARACTERISTICS OF BIOGAS/METHANE/AIR FLAMES FIRED BY A DOUBLE SWIRL BURNER	AN ENHANCED SAMPLE-PARTITIONING ADAPTIVE REDUCED CHEMISTRY METHOD WITH A-PRIORI ERROR ESTIMATION	MODELING OUTER ASH DEPOSITION RATES IN SECOND GENERATION ATMOSPHERIC PRESSURE OXY-FUEL COMBUSTION SYSTEMS
	S. Chakchak, A. Hidouri, A. Ghabi, M. Chrigui, T. Boushaki , M. Sassi	*S.A. Rashkovskiy*	*A. Abdulnaim, A. Elkholy, M. Elmously, H. Moneib, and A.M. Elbaz*	*P. Pagani, R. Malpica Galassi, R. Amaduzzi, P. Parente, and F. Contino*	*Gautham Krishnamoorthy and Nghia Duc Tin Nguyen*
10:20	**MCS12-141-TC**	**MCS12-012-HC**		**MCS12-013-RK**	
	EFFECTS OF HYDROGEN ENRICHMENT ON THE DYNAMICS OF SWIRL-STABILISED FLAMES	A REACTIVE MOLECULAR DYNAMICS INVESTIGATION OF NANOPARTICLE INTERACTIONS IN HYDROCARBON COMBUSTION		ARTIFICIAL NEURAL NETWORKS BASED IGNITION DELAY TIME PREDICTION FOR NATURAL GAS BLENDS	
	A. D. Kumar, J. C. Massey, I. Boxx, and N. Swaminathan	*M. Sayed Ahmad, E. Kritikos, and A. Giusti*		*Shashank S. Nagaraja and S. Mani Sarathy*	
10:40	**Coffee break**				
11:20	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:	**HETEROGENEOUS COMBUSTION AND PYROLYSIS** Hall - 2 Chair:	**ENERGY STORAGE AND ALTERNATIVE RENEWABLE FUELS** Hall - 3 Chair:	**POLLUTANT FORMATION AND CONTROL** Hall - 4 Chair:	**CO2 CAPTURE PROCESSES AND NEW COMBUSTION CONCEPTS** Hall - 5 Chair:
11:20	**MCS12-080-TC**	**MCS12-059-HC**	**MCS12-129-ES**	**MCS12-021-PF**	**MCS12-020-CC**
	INVESTIGATION OF SOOT FORMATION OF ETHYLENE/AIR JET DIFFUSION FLAME WITH RANK CORRELATED SLW INCLUDING ETHYLENE AND ACETYLENE RADIATION	STABILITY CHARACTERISTICS OF A FLAME SPRAY PYROLYSIS BURNER	MODELING APPROACHES FOR AMMONIA MILD COMBUSTION IN A SYSTEM WITH INTERNAL RECIRCULATION	SOOT AND TEMPERATURE MEASUREMENTS IN NONPREMIXED AND PARTIALLY- PREMIXED ETHANE/ETHANOL FLAMES	A MOLECULAR DYNAMICS STUDY OF METHANOL OXIDATION IN SUPERCRITICAL CO2 AND H2O
	Berkay Halvaşi, Altuğ M. Başol, M. Pınar Mengüç, Özgür Ertunç	*Callum Kennedy, Matthew J. Dunn and Assaad R. Masri*	*L. Giuntini, L. Frascino, G.B. Ariemma, R. Ragucci, C. Galletti, G. Sorrentino*	*Marek Serwin and Ahmet E. Karataş*	*M. Monge-Palacios, E. Grajales-González, and S. Mani Sarathy*
11:40	**MCS12-084-TC**	**MCS12-144-HC**	**MCS12-117-ES**	**MCS12-030-PF**	**MCS12-024-CC**
	A COMPUTATIONAL STUDY ON EFFECTS OF INJECTOR PITCH ANGLE ON FLAME STABILIZATION IN OPPOSED JETS IN CROSSFLOW	NANO-CONFINED MANGANESE OXIDE ON SBA-15 FOR ETHYLENE CATALYTIC OXIDATION	A COMPREHENSIVE STUDY ON THE COMBUSTION CHEMISTRY OF TWO BIO-HYBRID FUELS: 1,3-DIOXANE AND 1,3-DIOXOLANE	MODELING SOOT FORMATION IN NORMAL AND INVERSE DIFFUSION FLAMES USING FGM CHEMISTRY AND SECTIONAL METHOD	SIMULATION OF A SORPTION-ENHANCED METHANATION PROCESS WITH CaO IN A DUAL INTERCONNECTED FLUIDIZED BED SYSTEM
	Vansh Sharma, Yihao Tang and Venkat Raman	*Mohamad Abou-Daher , Hassnain Abbas Khan, Aamir Farooq*	*M. Hellmuth, B. Chen, C. Bariki, L. Cai, F. Cameron, A. Wildenberg , C. Huang, S. Faller, Y. Ren, J. Beeckmann, K. Leonhard, K. A. Heufer , N. Hansen , and H. Pitsch*	*Abhijit Kalbhor and Jeroen van Oijen*	*A. Coppola, F. Massa, F. Scala*

12:00	**MCS12-118-TC**	**MCS12-145-HC**	**MCS12-146-ES**	**MCS12-052-PF**	**MCS12-077-CC**
	ANALYSIS OF DILUTION EQUATION USING DNS DATA OF MILD COMBUSTION	IMPORTANCE OF PROCESS VARIABLES AND THEIR OPTIMIZATION FOR OXIDATIVE COUPLING OF METHANE (OCM)	NUMERICAL INVESTIGATION OF A BIOGAS FUELLED MICRO GAS TURBINE COMBUSTOR	NOX EMISSIONS TRENDS IN HYDROGEN LEAN PREMIXED FLAMELETS AT HIGH STRAIN RATE	COMBINATION EFFECT OF IN-SITU COMBUSTION AND EXHAUST GASES RECIRCULATION ON 1D COMBUSTION TUBE: NUMERICAL APPROACH
	X. Deng, H. S. A. M. Awad, Z. Li, K. Abo-Amsha, J.C. Massey, N. Chakraborty, N. Swaminathan	*Sultan Alturkistani, Haoyi Wang, Ribhu Gautam, S. Mani Sarathy*	*Manish Singh, Sudipto Mukhopadhyay*	*A. Porcarelli, B. Kruljevic and I. Langella*	*Mohamed Hamdy, A. Abd El-Sabor Mohamed, Henry Curran*
12:20	**MCS12-072-TC**		**MCS12-093-ES**	**MCS12-091-PF**	
	STUDY OF PULVERIZED COAL COMBUSTION PHENOMENA IN OBLIQUE PREMIXED METHANE-AIR FLAMES		HIGH PRESSURE AMMONIA OXIDATION	NOX EMISSIONS CHARACTERISTICS IN ROTATING DETONATION ENGINES	
	Chia-Wei Chang, Yueh-Heng Li, Yu-Ting Wu, and Shou Yin Yang		*P. Garcia-Ruiz, M. Uruén, M. Abián and M.U. Alzueta*	*C. Van Beck and V. Raman*	
12:40	**Lunch break**				
15:00	**PLENARY SESSION 8** Hall - 1 ***Hydrogen Peroxide Fuel Oxidation: Fundamentals and Applications*** ***Bassam Dally***, *King Abdullah University of Science and Technology, SA* *Chair:*				
15:50	**Coffee break**				
16:20	**PARALLEL SESSIONS**				
	TURBULENT COMBUSTION Hall - 1 Chair:		**ENERGY STORAGE AND ALTERNATIVE RENEWABLE FUELS** Hall - 3 Chair:	**POLLUTANT FORMATION AND CONTROL** Hall - 4 Chair:	**CO2 CAPTURE PROCESSES AND NEW COMBUSTION CONCEPTS** Hall - 5 Chair:
16:20	**MCS12-112-TC**		**MCS12-119-ES**	**MCS12-078-PF**	**MCS12-042-CC**
	SUPERVISED CLUSTERING FOR OPTIMAL SUB-MODELLING IN REACTOR-BASED MODELS		THERMAL STRUCTURE OF AN ALUMINUM-METHANE-AIR HYBRID FLAME	MODELING OF NO REDUCTION ON CeO2 SUPPORTED PT AND PD NANOCLUSTERS	A REACTIVE MOLECULAR DYNAMICS STUDY OF THE EFFECT OF ELECTROSTATIC FIELDS ON HYDROGEN COMBUSTION
	A. Pe´quin, S. Iavarone, R. Malpica Galassi, A. Parente		*Samuel Jeanjean, Justin Bertsch, Guillaume Legros, Christian Chauveau, Fabien Halter*	*Zuo Li, Mohamed N. Marei, Assaad R. Masri, and Alejandro Montoya*	*Muhammad Mueed Khan, Efstratios Kritikos, Andrea Giusti*
16:40	**MCS12-115-TC**		**MCS12-132-ES**	**MCS12-054-PF**	**MCS12-083-CC**
	THE EFFECT OF SUB-GRID SCALE STRAINING IN THE LAMINAR FLAMELET REGIME		EVALUATION AND APPLICATION OF THE MULTIPHASE PSEUDOPOTENTIAL LATTICE-BOLTZMANN METHOD FOR FUELS	FLAME CHEMISTRY: TOWARDS A BETTER CHARACTERIZATION OF GASES UPSTREAM HYDROCARBON FLAMES	EFFECTS OF PULSED PLASMA DISCHARGES ON A NON-PREMIXED SWIRLING BIOGAS/AIR FLAME
	A. B. Murugavel, K. Ganga, J. C. Massey, Y. Tanaka, and N. Swaminathan		*Juan Restrepo-Cano, Francisco E. Hernandez P ´ erez, Hong G. Im*	*B. Truchot, C. Murillo Rueda, J.P. Bertrand*	*A. Ghabi, T. Boushaki, P. Escot Bocanegra, E. Robert*
17:00	**MCS12-099-TC**		**MCS12-006-ES**	**MCS12-131-PF**	
	ANALYSIS OF ENTROPY GENERATION IN SANDIA FLAME F USING A HYBRID FILTERED EULERIAN STOCHASTIC FIELD COUPLED WITH DETAILED CHEMISTRY TABULATION		ANALYSIS OF THE EFFICIENCY OF COAL-WATER FUELS USING MULTIPLE-CRITERIA DECISION-MAKING	ELECTROPHORETIC DEPOSITION OF FLAME FORMED CARBON NANOPARTICLES: MODELLING AND EXPERIMENTAL FINDINGS	
	S. Agrebi, and A. Sadiki		*V. Dorokhov, G. Kuznetsov, K. Vershinina and P. Strizhak*	*A. Parisi, G. De Falco, M. Sirignano, P. Minutolo, M. Commodo, C. Carotenuto, F. Di Natale*	
17:20	End of the day				
18:30	Farwell Cocktail				