Towards Net-Zero Carbon Society Bari | June 2-5, 2024





WELCOME Technical Program & Social Events





Towards Net-Zero Carbon Society Bari | June 2-5, 2024



WELCOME

The Organizing Committee wishes to thank you for attending the 46th Meeting of the Italian Section of the Combustion Institute – "Towards Net-Zero Carbon Society" (June 2-5, 2024), Bari.

The annual meeting of the Italian Section of the Combustion Institute is aimed at giving the opportunity for exchange of expertise and discussion between scientists and technologists working in the field of combustion, in all its fundamental and applied aspects, with specific emphasis to low-emission and sustainable technologies. We hope you will have a productive meeting!

As for the last meetings, awards will be given to the best presentations or posters delivered by PhD students or young researchers during the meeting.

Oral presentations: 15 min (recommended 12 min +3 min for Q&A). Poster presentation: A0 format

VENUE

Centro Polifunzionale Studenti, Università degli Studi di Bari Aldo Moro Piazza Cesare Battisti 1, Bari (Italy) – June 3 and 4



Aula Magna "Domus Sapientiae", Dipartimento ArCoD, Politecnico di Bari, Via Edoardo Orabona 4, Bari (Italy) – June 5



Italian Section of The Combustion Institute

Associazione Sezione Italiana del Combustion Institute

P.le V. Tecchio, 80 – 80125 Napoli – Italia

ASICI website: www.combustion-institute.it

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Associazione Sezione Italiana del Combustion Institute ASICI

ACKNOWLEDGEMENTS







MUR Dipartimento di Eccellenza 2018-2022 2023-2027

Towards Net-Zero Carbon Society Bari | June 2-5, 2024



SUPPORTING PARTNERS





MEDIA PARTNERS







ORGANIZING AND SCIENTIFIC COMMITTEE

Dr. Mario Commodo (CNR-STEMS)

Prof. Davide Laera (Politecnico di Bari)

Prof. Sergio Camporeale (Politecnico di Bari)

Dr. Giancarlo Sorrentino (CNR-STEMS)

Dr. Gianluigi De Falco (CNR-STEMS)

Mr. Francesco Gabriele Schiavone (Politecnico di Bari)

Dr. Antonio Tregrossi (CNR-STEMS)

Topics

- Carbon-free energy carriers: combustion fundamentals
- Carbon-free energy carriers: combustion applications
- Biomass and waste thermochemical processing, recycling, and valorization
- Laminar and Turbulent Combustion, including ignition, combustion dynamics and detonation
- Soot, Nanomaterials synthesis, and Large Molecules production
- Propulsion & Engines
- Novel concepts and CCUS including multi-physics and multi-phase phenomena
- Stationary Combustion and Gas Turbines
- Reaction Kinetics
- Emission and contaminants mitigation, formation and monitoring including incineration

46 Meeting of the Italian Section of the Combustion Institute Towards Net-Zero Carbon Society Bari | June 2-5, 2024



SPECIAL ISSUES PUBLICATION

Selected papers from the conference proceedings will be published in Special Issues of the *Applied Thermal Engineering Journal*



Direct Download

Proceedings



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Social Events



SUNDAY, JUNE 2

WELCOME COCKTAIL – Sponsored by CCA

L'ARGENTERIA

Via Roberto da Bari, 139 - 70122 Bari





MONDAY, JUNE 3

EARLY CAREER RESEARCHER MIXER

VARIETÀ

Via XXIV Maggio, 4 - 70121 Bari





TUESDAY, JUNE 4

EXPLORE BARI and SOCIAL DINNER

Location for the social dinner:

RISTORANTE POLVERE DI STELLE

Lungomare Nazario Sauro, 7/9 - 70121 Bari



Technical Tour



THURSDAY, JUNE 6
CENTRO COMBUSTIONE AMBIENTE (CCA)
Via Milano Km 1,600 - 70023 Gioia del Colle
Visit to CCA's facilities, from 14:00 to 17:00.



Towards Net-Zero Carbon Society Bari | June 2-5, 2024



Sunday, 2 June 2024

46th Meeting of the Italian Section of the Combustion Institute

18:00-20:30	WELCOME COCKTAIL – (L'ARGENTERIA)
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Monday, 3 June 2024 46th Meeting of the Italian Section of the Combustion Institute
Centro Polifunzionale Studenti, Università degli Studi di Bari Aldo Moro, Piazza Cesare Battisti 1, Bari

8:15-8:45		Rog	istratio	n	
8:45-9:00		Opening			
9:00-10:00					
9.00-10.00	PLENARY LECTURE - SALA ALESSANDRO LEOGRANDE GREEN METALS AS RECYCLABLE CARRIERS OF RENEWABLE ENERGY – FROM GLOBAL OPPORTUNITIES TO				
	"	COMBUS			
		Prof. DrIng			
		Chair: Ma			
10:00-10:15		Breal	k/Trans	fer	
10:15-11:30		ORAL PR	ESENTA	TIONS	
		SALA ALESSANDRO LEOGRANDE		SALA CARLO DE TRIZIO	
	SESSION I: Carbon-free energy carriers: Combustion fundamentals SESSION II: Biomass and waste thermochemical processing, recycling, and valorization				
		Chair: Rachele Lamioni		Chair: Corinna Maria Grottola	
10:15	l-1	HYDROGEN COMBUSTION: MIXTURE RULES AND RATE CONSTANTS. A CASE STUDY ON THE MULTICOMPONENT PRESSURE DEPENDENCE OF H+O ₂ +M=HO ₂ +M M. Primi, T. Dinelli, M. Lea Casagrande, L. Pratali Maffei, A. Cuoci, M. Pelucchi, C. Cavallotti	II-1	CHAR:ME: BIOCHAR AND BIOMASS-DERIVED WASTE PRODUCTS AS SUSTAINABLE AND SAFE DOMESTIC FUEL R. Caraccio, M. M. Afessa, A. Scialabba, L. Signori, D. Caregnato, D. Della Toffola, C. Ferrato, T. Faravelli, M. Bracconi, A. Turolla, M. Pelucchi	
10:30	I-2	A-PRIORI ANALYSIS OF THE FLAME STRUCTURE IN THERMODIFFUSIVELY UNSTABLE NH ₃ /H ₂ /AIR MIXTURES F. D'Alessio , S. Bottari, P. E. Lapenna, F. Creta	II-2	GASIFICATION BY O ₂ -ENRICHED AIR AND STEAM OF TWO MIXED PLASTIC WASTES IN A LARGE PILOT SCALE FLUIDIZED BED GASIFIER F. Parrillo, C. Boccia, F. Ardolino, G. Calì, S. Meloni, A. Pettinau, U. Arena	
10:45	I-3	EFFECT OF WATER COLLISION EFFICIENCY ON EMISSIONS OF NON-PREMIXED HYDROGEN/AIR FLAMES R. Concetti, J. Hasslberger, M. Klein	II-3	PROCESS MODELING OF THE PRODUCTION OF SYNTHETIC NATURAL GAS FROM BIOMASS-DERIVED SYNGAS R. Ruggiero, A. Coppola, M. Urciuolo, F. Scala	
11.00	I-4	ASSESSING THE COMBUSTION BEHAVIOR OF DIMETHYL ETHER AND AMMONIA: A COMPARATIVE STUDY F. Roman Artioli, L. Granata, A. Stagni	11-4	Pb FATE DURING PYROLYSIS OF HEAVY METALS CONTAMINATED BIOMASS D. Amato, P. Giudicianni, C.M. Grottola, F. Stanzione, R. Ragucci	



11.15	I-5	IMPACT OF THE OPERATING CONDITIONS ON THE CORRELATION BETWEEN OH* AND HEAT RELEASE RATE IN HYDROGEN-AIR FLAMES F. G. Schiavone, M. Torresi, S. M. Camporeale, D. Laera	II-5	GREEN LITHIUM RECOVERY FROM LFP CATHODES: A STUDY ON AIR-ASSISTED ORGANIC ACID LEACHING B. Visone, O. Senneca, R. Chagtmi, B. Apicella
11.30-11:45		Cofi	fee Brea	ık
11:45-13:00		ORAL PR	ESENTA	TIONS
		SALA ALESSANDRO LEOGRANDE SESSION III: Carbon-free energy carriers: Combustion Applications – Part 1 Chair: Fabio Cozzi		SALA CARLO DE TRIZIO ESSION IV: Laminar and Turbulent Combustion, ling ignition, combustion dynamics and detonation Chair: Alessandro Stagni
11:45	III-1	THREE-DIMENSIONAL SIMULATIONS OF FLASHBACK IN PREMIXED HYDROGEN FLAMES WITHIN PERFORATED BURNERS F. Fruzza, H. Chu, R. Lamioni, T. Grenga, C. Galletti, H. Pitsch	IV-1	INFRARED THERMAL IMAGING AND POLLUTANT EMISSIONS OF ULTRA-LEAN TURBULENT PRODUCER GAS FLAME M. Z. Qureshi, C. Caligiuri, M. Renzi, B. Vittoria, F. Patuzzi, M. Baratieri
12:00	III-2	INFLUENCE OF HYDROGEN ADDITION TO METHANE UNDER MILD CONDITIONS G.B. Ariemma, G. Sorrentino, P. Sabia, M. de Joannon, R. Ragucci	IV-2	A TRANSPORTED THICKENING FACTOR STRATEGY FOR MULTI-REGIME COMBUSTION N. Scopolini, S. Castellani, A. Andreini
12:15	III-3	THICKENED FLAME MODEL FOR MULTI-FUEL MULTI-INJECTION COMBUSTION - POLLUTANT ANALYSIS OF AN AMMONIA-HYDROGEN SWIRLED FLAME H.J. Vargas Ruiz, D. Laera, G. Lartigue, L. Gicquel	IV-3	LASER-INDUCED IGNITION IN A METHANE/OXYGEN ROCKET COMBUSTOR D. Passiatore, M. Di Renzo, D. Rossinelli, J. Wang, G. laccarino
12.30	III-4	NUMERICAL INVESTIGATION IN A GAS TURBINE BURNER OPERATING WITH HYDROGEN-AMMONIA BLEND USING LARGE EDDY SIMULATION AND LES- CRN METHODOLOGY L. Mazzotta, R. Meloni, R. Lamioni, C. Romano	IV-4	BAYESIAN DATA ASSIMILATION OF ACOUSTICALLY-FORCED LAMINAR PREMIXED CONICAL FLAMES A. Giannotta, M. Yoko, S. Cherubini, P. De Palma, M. P. Juniper
12:45			IV-5	ANALYSIS OF FLAME PROPAGATION AND DETONATION CHARACTERISTICS IN HYDROGEN-OXYGEN AND AMMONIA-OXYGEN MIXTURES G. Cinieri, A.S. Zubair, M.G. De Giorgi
13.00-14:30		LUN	CH BRE	AK



14:30-16:00	ORAL PRESENTATIONS			
		SALA ALESSANDRO LEOGRANDE SESSION V: Carbon-free energy carriers: combustion applications – Part 2	SALA CARLO DE TRIZIO SESSION VI: Soot, Nanomaterials synthesis, and Large Molecules production	
		Chair: Davide Laera		Chair: Francesca Migliorini
14:30	V-1	ANALYSIS OF THE NOx FORMATION PATHWAYS IN A PARTIALLY PREMIXED BURNER OPERATED WITH PURE HYDROGEN R. Meloni, G. Babazzi, L. Mazzotta, D. Borello	VI-1	TOWARDS AN IMPROVED DESCRIPTION OF CARBONACEOUS PARTICLE MORPHOLOGY A. Nobili, M. Pelucchi, A. Frassoldati, T. Faravelli
14:45	V-2	FLASHBACK LIMITS OF H ₂ PREMIXED LAMINAR FLAMES: IMPACT OF SORET AND MULTICOMPONENT DIFFUSION A. Cuoci, B. Naud, M. Arias-Zugasti, A. Frassoldati	VI-2	THE EFFECT OF OZONE ON SOOT FORMATION IN PARTIALLY PREMIXED LAMINAR METHANE/AIR FLAMES A. Pignatelli, L. Basta, F. Sasso, F. Picca, M. Commodo, P. Minutolo, A. D'Anna
15:00	V-3	PREDICTIVE SURROGATE MODEL FOR NOX EMISSIONS IN GAS TURBINE SYSTEMS FED WITH AMMONIA/HYDROGEN BLENDS R. Lamioni, A. Mariotti, M.V. Salvetti, C. Galletti	VI-3	FLAME-SYNTHESIZED TIO ₂ -C NANOCOMPOSITE FILMS: UNVEILING RESISTIVE SWITCHING PHENOMENON FOR MEMORY STORAGE APPLICATIONS A. Khalique, M. Commodo, P. Minutolo, G. De Falco, A. D'Anna
15:15	V-4	EXPLORING HYDROGEN LOW NOX (HYLON) BURNER WITH LARGE EDDY SIMULATIONS M. Fiaschi, S. Nambully, S. Liu, E. Pomraning, D. Lee, M. D'Elia	VI-4	CARBON PRODUCTION BY THERMAL METHANE CRACKING IN TUBULAR QUARTZ REACTOR E. Busillo, A. Nobili, F. Serse, M.P. Bracciale, P. De Filippis, M. Pelucchi, B. de Caprariis
15:30	V-5	EXPERIMENTAL INVESTIGATION OF HYDROGEN JET FOR DIRECT INJECTION IN ICE A. Montanaro, G. Meccariello, L. Allocca	VI-5	MONITORING CARBON CONTENT COMPOSITION OF NANOPARTICLES GENERATED IN A PREMIXED ETHYLENE AIR FLAME F. Picca, M. Commodo, P. Minutolo, A. D'Anna
15.45	V-6	HIGH PRESSURE DIRECT NUMERICAL SIMULATION OF TURBULENT PREMIXED ${\rm NH_3/H_2/N_2\text{-}AIR}$ SLOT FLAME AT $\varphi=1.5$ D. Cecere, M. Cimini, E. Giacomazzi, S. Carpenella	VI-6	EXPLORING FLAME-FORMED CARBON NANOPARTICLE THIN FILMS FOR SENSING APPLICATIONS L. Basta, P. Darvehi, G. De Falco, M. Commodo, P. Minutolo, A. Aloisio, P. Minutolo, A. D'Anna
16.00-16:30	Coffee Break			
16.30-17:00	D'ALESSIO AWARD 2024			
17.00-18:00	ASICI MEMBER MEETING			
18.30-20:30		EARLY CARRER RESE	ARCHER	R MIXER (VARIETÀ)

Towards Net-Zero Carbon Society Bari | June 2-5, 2024



Tuesday, 4 June 2024 46th Meeting of the Italian Section of the Combustion Institute
Centro Polifunzionale Studenti, Università degli Studi di Bari Aldo Moro, Piazza Cesare Battisti 1, Bari

8:15-9:00	Registration			
9:00-10:00	PLENARY LECTURE - SALA ALESSANDRO LEOGRANDE AMMONIA, THE 'OTHER' HYDROGEN FOR CLEAN ICE Prof. Christine Mounaïm-Rousselle Chair: Pino Sabia			
10:00-10:15		Breal	k/Transfer	
10:15-11:30		ORAL PR	ESENTATIO	ONS
		SALA ALESSANDRO LEOGRANDE SESSION VII: Propulsion & Engines Chair: Barbara Apicella	SESSIO	SALA CARLO DE TRIZIO ON VIII: Stationary Combustion Systems And Gas Turbines - Part 1 Chair: Francesco Schiavone
10:15	VII-1	ON THE LUBRICANT OIL POTENTIAL TO SERVE AS AUTO-IGNITION CENTRE IN HYDROGEN ENGINES E. Distaso, G. Calò, R. Amirante, P. De Palma, P. Tamburrano	VIII-1	LES EVALUATION OF PASR AND EXTENDED FGM MODEL ON THE DLR F400S.3 MGT BURNER G. Generini, A. Andreini, T. Lingstädt, P. Kutne
10:30	VII -2	A NUMERICAL STUDY, IMPLEMENTING CHEMICAL KINETICS, TO ASSESS PRE- AND POST-SPARK SELF-IGNITION IN A HYDROGEN INTERNAL COMBUSTION ENGINE D. A. Baloch, M.R. Gaballo, M. Iacobazzi, E. Distaso, R. Amirante, P. Tamburrano, N. Medoro, A. Arvizzigno	VIII-2	THE IMPACT OF HEFA ON EMISSIONS AND PERFORMANCES OF A MICRO GAS TURBINE USING COMBUSTION VIBRATIONS DETECTION C. Allouis, A. Amoresano, G. Langella, G. Quaremba
10:45	VII -3	ANALYSIS OF DUAL FUEL HYDROGEN/DIESEL COMBUSTION IN ULTRA LEAN CONDITIONS VIA SIMULTANEOUS UV AND IR IMAGING S. Rossetti, A. Montanaro, E. Mancaruso, B.M. Vaglieco	VIII-3	VALIDATION OF A VIRTUAL CHEMISTRY COMBUSTION MODEL IN A FULLY TECHNICALLY PREMIXED BURNER R. Meloni, G. Babazzi, C. Romano, S. Castellani, A. Andreini
11.00	VII-4	IMPACT OF NATURAL GAS/HYDROGEN BLENDS ON PERFORMANCE AND EMISSION OF AN SI HD ENGINE C. Guido, L. De Simio, P. Napolitano, D. Cerbone	VIII -4	LEAN BLOW-OUT ANALYSIS FOR THE PERFORMANCE ASSESSMENT OF DIFFERENT BURNER DESIGNS THROUGH A HIGH-FIDELITY CFD APPROACH G. Lemmi, S. Castellani, S. Galeotti, A. Picchi, R. Becchi, A. Andreini, G. Babazzi, R. Meloni
11.15	VII-5	ENI HVO FUEL VS COMMERCIAL EN590 DIESEL EMISSIONS COMPARISON ON OHW ENGINE DYNO BENCH D. Nuccio, N. Medoro, A. Arvizzigno	VIII -5	Experimental and numerical study of the effect of CO ₂ /N ₂ dilution to simulate EGR in GT combustor S. Galeotti, A. Picchi, R. Becchi, G. Lemmi, R. Meloni, G. Babazzi, A. Andreini



11.30-11:45		Coff	ee Break	
11:45-13:00	ORAL PRESENTATIONS			
	SALA ALESSANDRO LEOGRANDE SESSION IX: Novel concepts and CCUS including multi-physics and multi-phase phenomena Chair: Giuseppe Langella		SESSI	SALA CARLO DE TRIZIO ON X: Stationary Combustion Systems And Gas Turbines - Part 2 Chair: Giovanni Battista Ariemma
11:45	IX-1	INTEGRATED CO2 CAPTURE AND METHANATION FROM A SO2-BEARING FLUE GAS: S-TOLERANCE AND REGENERATION OF THE DUAL FUNCTION MATERIAL S. Cimino, E.M. Cepollaro, L. Lisi	X-1	COMPARISON OF DIFFERENT INSTABILITY CRITERIA FOR THE CHARACTERIZATION OF THE DYNAMICAL STATE OF COMBUSTION SYSTEMS E. Giulietti, E. Giacomazzi, C. Stringola, C. Romano
12:00	IX -2	A FLUIDIZED BED AUTOTHERMAL REACTOR FOR SOLAR-POWERED SUSTAINABLE PROCESSES S. Padula, M. Troiano, C. Tregambi, R. Solimene, P. Salatino	X -2	CHALLENGES IN MODELLING INDUSTRIAL BURNERS FOR DESIGN PURPOSE: A CASE STUDY FOR GASEOUS AND LIQUID FUELS G. Rossiello, L. Morandi, D. Carucci, D. Ettorre, T. Vela, S.B. Ahmadpanah, and M. Torresi
12:15	IX -3	EVAPORATION AND COMBUSTION OF SUSPENDED DROPLETS WITH BUOYANCY-DRIVEN FLOWS E. Cipriano, A. Frassoldati, T. Faravelli, A. Cuoci	X -3	ANALYSIS OF THERMOACOUSTIC INSTABILITES IN A MICRO GAS TURBINE C. Vankelekom, F.G. Schiavone , W. De Paepe, D. Laera
12.30	IX -4	BIO-CRUDE PRODUCTION AND INORGANICS ELEMENTS DISTRIBUTION DURING THE HYDROTHERMAL LIQUEFACTION OF TANNERY SLUDGE F. Di Lauro, G. Marotta, M. Balsamo, F. Montagnaro, P. Salatino, R. Solimene	X -4	MODELLING AND FULL-SCALE TESTING OF A 35 MW HEAVY-DUTY MILD BURNER D. Ettorre, A. Puzo, T. Vela, S.B. Ahmadpanah, A. Saponaro, M. Torresi, G. Rossiello
12:45	IX -5	EFFECT OF NANOSECOND PLASMA DISCHARGE ON IGNITION DELAY TIME OF AMMONIA/AIR MIXTURE A.S. Zubair, Z. Mingming, M.G. De Giorgi	X-5	DEVELOPMENT OF A LOW-NOX MICRO-MIXING GAS TURBINE BURNER FOR HIGH-H2 CONTENT BLENDS A. Di Nardo, E. Giacomazzi, M. Cimini, G. Troiani, G. Calchetti, D. Cecere
13.00-14:30		LUNG	CH BREAK	



14:30-16:00		ORAL PR	ESENTATIO	ONS
		SALA ALESSANDRO LEOGRANDE SESSION XI: Reaction Kinetics Chair: Francesca Picca	SALA CARLO DE TRIZIO SESSION XII: Emission and contaminants mitig formation and monitoring including incineration Chair: Gianluigi De Falco	
14:30	XI-1	REDUCED-ORDER CONDENSED-PHASE KINETIC MODELS FOR POLYETHYLENE THERMAL DEGRADATION A. Locaspi, T. Faravelli	XII-1	THE EFFECT OF STRAIN RATE ON NANOPARTICLES AND SOOT IN ETHYLENE COUNTERFLOW FLAMES BLENDED WITH ETHANOL AND OME3 V. Esposito, M. Sirignano
14:45	XI -2	A GROUP PRESERVING TIME INTEGRATION SCHEME FOR CHEMISTRY L. Angelilli, V. Raman	XII -2	NEWEST METHODOLOGY FOR FLARE VALIDATION V. Ceglie, A. Ferrante, S.M. Camporeale, M. Torresi, D. Laera, A. Saponaro, S. Kretzschmar, R. Withnall
15:00	XI -3	COMBINING METADYNAMICS AND MEAN FORCE INTEGRATION FOR STUDYING CHEMICAL REACTIONS IN SOLUTION: AN APPLICATION TO BACKBITING OF POLY-BUTYL ACRYLATE F. Serse, A. Bjola, M. Salvalaglio, M. Pelucchi	XII -3	EXPERIMENTAL INVESTIGATION ON PFAS REMEDIATION THROUGH CIVIL SLUDGE COMBUSTION PROCESSES. M. Urciuolo, R. Migliaccio, B. Ciccone, G. Ruoppolo, M. Baric, A. de Folly d'Auris, S. Frisario, D. Panepinto, G. Premoli, B. Ruffino, M. Zanetti
15.30	XI -4	GASOLINE SURROGATE COMBUSTION WITH OZONE ADDITION F. Anaclerio, S. M. Camporeale, V. Magi, F. Fornarelli	XII -4	AN EXPERIMENTAL STUDY ON THE CATALYTIC CRACKING OF TAR: THE EFFECT OF GAS RESIDENCE TIME G V. Arconati, C. Boccia, F. Parrillo, F. Ardolino, G. Ruoppolo, U. Arena
15:45	XI -5	DEVELOPMENT OF REDUCED CHEMICAL KINETIC MECHANISM FOR COMBUSTION OF AMMONIA-HYDROGEN BLENDS F.M. Wako, S. Castellani, A. Andreini	XII -5	ACCURATE MODELLING OF NOX EMISSION IN A COKE- OVEN-BATTERY WITH VALIDATION AGAINST TEST DATA G. Rossiello, T. Vela, A. Vicentini , D. Ettorre, S.B. Ahmadpanah, M. Torresi
16.00	XI -6	SECONDARY GAS-PHASE REACTIONS OF POLYETHYLENE PYROLYSIS: SEMI-DETAILED AND GLOBAL KINETICS A. Pegurri, A. Locaspi, M. Mehl, M. Pelucchi, A. Stagni, T. Faravelli		
16.00-16:15	Coffee Break			
16.15-18:30	TOUR: EXPLORE BARI			
20.00-22:00		SOCIAL DINNER (RISTO	DRANTE PO	DLVERE DI STELLE)

Towards Net-Zero Carbon Society Bari | June 2-5, 2024



Wednesday, 5 June 2024 46th Meeting of the Italian Section of the Combustion Institute

Aula Magna "Domus Sapientiae", Dipartimento ArCoD, Politecnico di Bari

8:45-9:00	Registration
9:00-10:00	PLENARY LECTURE - AULA MAGNA "DOMUS SAPIENTIAE"
	THE DUAL ROLE OF CARBON IN THE ENERGY TRANSITION
	Prof. Matteo Maestri
	Chair: Alberto Cuoci
10:00-10:15	Break/Transfer
	ROUND TABLE "THE KEY ROLE OF HYDROGEN FOR SUSTAINABLE PROPULSION AND POWER:
	OPPORTUNITIES AND CHALLENGES, FROM SUPPLY TO UTILIZATION" Moderators: Sergio Camporeale, Davide Laera
10:15-11:45	 Antonio Arvizzigno (Bosch CVIT) Federico Bonzani (Ansaldo Energia) Salvatore De Rinaldis (Saipem) Eugenio Giacomazzi (ENEA) Angelo Giardino (Isotta Fraschini Motori s.p.a.) Christian Romano (Baker Hughes)
11:45-13:00	POSTER SESSION AND COFFEE BREAK
13:00-13:15	Closing remarks and awards for young researchers
13:15-14:30	Farewell Lunch

14.30-18:30	SECOND ITALIAN WORKSHOP ON AMMONIA ENERGY Aula Magna "Domus Sapientiae", Dipartimento ArCoD, Politecnico di Bari
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