

46th Meeting of the Italian Section of the Combustion Institute

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



ANNOUNCEMENT AND CALL FOR PAPERS



Politecnico
di Bari



46th Meeting of the Italian Section of the Combustion Institute

Towards Net-Zero Carbon Society

June 2-5, 2024

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

The 46th Annual Meeting of the Italian Section of the Combustion Institute (ASICI) will take place in Bari (Italy), June 2-5, 2024. On June 3 and 4, the venue will be the Centro Polifunzionale Studenti of the Università degli Studi di Bari Aldo Moro, located near the historical center of Bari. The events on June 5 will instead take place in the Aula Magna "Domus Sapientiae" of the Politecnico di Bari. The style of the meeting will be informal to encourage collaboration and discussion among scientists and technologists working in the field of combustion, including fundamental and applied aspects, as well as neighboring fields such as pyrolysis, gasification, fuel processing, and upgrading. There will be a specific emphasis on net-zero emission systems for energy and mobility. Participation of Ph.D. students and young researchers is encouraged. The meeting will consist of parallel sessions for oral presentations, along with a work-in-progress and industrial poster session. Each morning session will start with a plenary lecture.

Main Topics:

Low-Emission Combustion Technologies: including low-carbon and hydrogen-based fuels, MILD combustion, oxy-fuel combustion, chemical looping, NO_x and SO_x reduction, and CO₂ capture strategies.

Reaction Kinetics: including the kinetics of hydrocarbons, oxygenated fuels, and alternative energy carriers, formation of pollutants, elementary reactions, and mechanism generation and reduction.

Laminar and Turbulent Flames: including experiments, theory, and modeling applied to ignition, propagation, extinction, stabilization, dynamics, and instabilities.

Spray, Droplet, and Supercritical Combustion: including atomization, combustion of droplets, sprays, and supercritical fluids.

Detonation, Explosion, and Supersonic Combustion: including fundamental aspects of ignition and flame acceleration, fire safety aspects, rotating- and pulse-detonation engines, constant volume combustion engines, and scramjet engines.

Solid Fuel Combustion: including fundamental aspects related to pyrolysis, oxidation, gasification, and ash formation from coal, biomass, and wastes, as well as combustion of propellants and metals.

Propulsion and Engines: including device-specific aspects of fuels, emissions, injection, stability, combustion dynamics, internal combustion engines, gas turbines, and rocket engines.

Soot, Nanomaterials, and Large Molecules: including the formation, growth, and destruction of soot, PAHs, carbon nanostructures, and other nanoscale materials.

Multi-Physics Phenomena: including assisted combustion (plasmas, electric and magnetic fields), catalysis, coupled heat transfer, micro-channel reactors, fuel cells, fuel synthesis and transformation, and electrolysis.

Invited Speakers:

- Prof. Dr.-Ing. Christian Hasse - Technische Universität Darmstadt, Germany
 - Prof. Christine Mounaïm-Rousselle - Université d'Orléans, France
 - Prof. Matteo Maestri - Politecnico di Milano, Italy
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Instruction to authors:

All presentations at the meeting will be oral. Those wishing to present a paper at the conference should send to the ASICI section secretary (info@combustion-institute.it) an extended abstract, **indicating the most closely related topical area** among those listed above, no later than **May 6th**. The extended abstract (maximum 6 pages) should conform to the template available on the ASICI website (www.combustion-institute.it).

Those wishing to present a work-in-progress (poster presentation) should send to the section secretary (info@combustion-institute.it) a 1-page abstract no later than **May 13th**. The WIP abstract should conform to the template available on the ASICI website (www.combustion-institute.it).

Oral presentations: Each presentation should be **15 minutes** including time for questions;

WIP poster presentation: Posters must be in **A0 format** portrait orientation (841 mm x 1189 mm)

The best presentations delivered by students or young researchers will be awarded during the meeting.

Registration details:

The following registration fees will apply:

- REDUCED Registration (for students)

300 EURO (**before May 16th**); 350 EURO (**after May 16th**)

- FULL Registration

400 EURO (**before May 16th**); 450 EURO (**after May 16th**)

payable to: "Associazione Sezione Italiana del Combustion Institute" ([registration form and payment](#) details will be available in due time on the [ASICI website](#)).

Registration fee includes: attendance to the technical sessions, conference proceedings, welcome cocktail, lunches and coffee breaks, tour, and social dinner.

Accommodation information:

Each participant should make their own hotel reservation.

Note: We recommend to book your accommodation as early as possible.

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)

Local Organizer

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Supporting Institutions

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