

# EXPLOSIONS

## Colloquium

## Dynamics

## International

Naples - June 19-24, 2022



Sunday 19 – Friday 24  
June 2022

Napoli, Italy

**ICDERS**

### Scientific Program

The meeting encompasses and welcomes both basic and applied research in the following topics:

- Detonation dynamics, structure, initiation and limits
- Dynamics of flame acceleration and DDT
- Dynamics of reactive supersonic flows
- Propulsion applications of detonations and high-speed flames
- Pressure gain combustion, including pulsed, constant volume and detonative combustion
- Astrophysical deflagrations and detonations
- Reactive dynamics of energetic materials
- Dynamics of Laminar and turbulent flames
- Turbulence in compressible reacting flows
- Multiphase reactive flow dynamics
- Gas and dust explosions
- Explosion safety
- Fire dynamics
- Diagnostics for reactive systems
- Numerical methods for reacting flows
- Nonlinear analysis and reactive analogues
- Modeling of reactive systems, including data-driven and machine learning based methods
- Chemical reaction kinetics and reaction dynamics
- Ignition phenomena
- Reaction wave instabilities and quenching
- Relaxation phenomena in shock waves
- Combustion acoustic phenomena
- Nanoparticles and soot in reactive systems
- Combustion processes in IC engines

The **International Colloquia on the Dynamics of Explosions and Reactive Systems (ICDERS)** have been the premier international forum for the presentation of scientific contributions in the fields of explosions and unsteady combustion.

They are recognized by **The Combustion Institute** as a Specialists Meeting on the fluid dynamics of combustion.

For the first time since its founding in 1967, the next 28th edition will be held in Italy, hosted in the beautiful and historical city of Naples.

### Chairs of 28<sup>th</sup> ICDERS

**Akiko Matsuo (Chair)**, Keio University, Japan

Andrea Comandini, CNRS-ORLEANS, France

Ng Hoi Dick, Concordia University, Canada

Mirko Gamba, University of Michigan, USA

### Venue

The 28<sup>th</sup> ICDERS will be hosted in Naples, Italy, by the National Research Council – Institute for Science and Technology for Sustainable Energy and Mobility (CNR – STEMS), in cooperation with the University of Naples Federico II and the University of Sannio and the assistance of MCM Eventi e Congressi.

The Chair of the Host Committee is **Francesco Saverio Marra**.

Web: <http://www.28icders.stems.cnr.it>

Contact e-mail: [28icders@stems.cnr.it](mailto:28icders@stems.cnr.it)

### Extended abstract submission

The submission of 4 or 6 pages extended abstracts for contributions to the colloquium will open soon. Each submitted contribution will be reviewed by an international committee. The **deadline** for the submission of **extended abstracts** is on **September 10, 2021**. Short abstracts for **Work-In-Progress** posters can also be submitted.

Authors of papers presented at this meeting are encouraged to submit full-length versions to one of these journals: **Combustion Science and Technology**, **Combustion Theory and Modeling**, and **Shock Waves**.

