



## 15TH INTERNATIONAL WORKSHOP ON COMBUSTION AND PROPULSION

***Advanced Design, Additive  
Manufacturing, and Characterization  
of Modern Energetic Materials***

# IWCP 2025



**06 - 09 July 2025**

**Guided Tour of Rome**

**10 - 12 July 2025**



**Aurum, Largo Gardone Riviera, 65126 Pescara, PE, Italy.**

# ABOUT IWCP

## 15th International Workshop on Combustion and Propulsion



The International Workshop on Combustion and Propulsion (IWCP) was initiated in 1990 by the SPLab of Politecnico di Milano to foster collaboration between East and West bloc researchers in combustion and rocket propulsion. Italy's strategic location has facilitated this unique global scientific dialogue. IWCP prioritizes open technical discussions, emphasizing in-depth exchanges over formal presentations. Its format includes Plenary Lectures by leading experts and encourages active audience participation. Attendance is limited to invitees with significant expertise or novel ideas, ensuring high-quality interactions. Costs are minimized to promote inclusivity and social interaction, with a focus on the international dissemination of findings.

The inaugural IWCP in 1990, held in Milan, explored "Transient combustion and stability of solid propellants," marking a historic collaboration between U.S. and Russian scientists in solid rocket propulsion. Each workshop has advanced global understanding of energetic material combustion and rocket propulsion, with outcomes compiled into reports for stakeholders. The 15th IWCP continues this legacy, focusing on "Advanced Design, Additive Manufacturing, and Characterization of Modern Energetic Materials," bringing together major global contributors to propel research and innovation forward.

### ABOUT 15th IWCP

The 15th International Workshop on Combustion and Propulsion focuses on "Advanced Design, Additive Manufacturing, and Characterization of Modern Energetic Materials." Highlights include plenary lectures by renowned experts on cutting-edge topics like Next-Generation High Energy Density Materials and explosive fireball dynamics, alongside engaging round tables on interactions with external irradiations and additive manufacturing innovations. This event fosters global collaboration and showcases breakthroughs shaping the future of energetic materials.

### OBJECTIVES

The IWCP focuses on the latest advancements and future trends in combustion and propulsion systems, aiming to address the crucial challenges and opportunities in these dynamic fields. This workshop serves as a platform for researchers, scientists, engineers, and industry professionals to:

**Share Cutting-edge Research:** Present and discuss the latest developments, innovations, and research findings in combustion and propulsion technologies.

**Network and Collaborate:** Foster collaboration and networking opportunities among global experts, creating avenues for future joint ventures and research collaborations.

**Explore New Challenges:** Identify and deliberate on emerging challenges, environmental impacts, and sustainability aspects in the sector.

**Interact in Planned Sessions:** Participate in keynote speeches, panel discussions, technical sessions, and poster presentations, all designed to stimulate learning and creative thinking.

Whether you are an established expert, an emerging researcher, or an industry enthusiast, the 15th IWCP provides a unique platform to deepen your understanding, showcase your work, and engage with a global network of professionals. Join us in Pescara for insightful discussions on advancing combustion and propulsion technologies and shaping the future of energetic materials.



**SUN - 06 JULY**

## **Arrival, Registration & Welcome Dinner Party**



**07 - 09 JULY**

### **🚀 Technical Program**

Join us for 37 Oral Presentations by renowned international experts over 3 days from 07- 09 July. Due to the large number of submissions, a Poster Session will complement the oral presentations.



**MON - 07 JULY**

#### **🚀 Plenary Lecture:**

##### **Next-Generation High Energy Density Materials (HEDMs)**

by Srinivas Dharavath, IIT Kanpur, India

#### **🤖 Roundtable:**

##### **Interaction of Energetic Materials with Various External Irradiations (Microwaves, Lasers, Electric Fields, etc.)**

Chaired by Michael Gozin, Tel Aviv University, Israel

Panel of Experts: RuiQi Shen, China; Zulkhair Mansurov, Kazakhstan; and Svatopluk Zeman, Czechia



**TUE - 08 JULY**

#### **🚀 Plenary Lecture:**

##### **Additive Manufacturing of Composite Energetic Materials**

by Wei Jiang, Chinese Academy of Sciences, China

#### **🤖 Roundtable:**

##### **Additive Manufacturing of Energetic Materials**

Chaired by Lori Groven, South Dakota School of Mines and Technology, USA

Panel of Experts: Alexander Vorozhtsov, Russia; Christian Paravan, Italy

#### **🗓 Poster Session:** Poster session hosting several presentations. For each poster, the available area is 1 m x 1.5 m.



**WED - 09 JULY**

#### **🚀 Plenary Lecture:**

##### **Visualization and Quantification of the Inside of the Explosive Fireball**

by Nick Glumac, University of Illinois, USA

#### **🤖 Roundtable:**

##### **Control of Microstructure in Additively Manufactured Energetic Composites**

Chaired by HaiYan Wang, Peking University, China

Panel of Experts: Lori Groven, USA; Alain Estève; France

# WORKSHOP COMMITTEES

## CHAIRS

- Luigi T. DeLuca (Ret.), Politecnico di Milano (PoliMi), Italy
- Ruth M. Doherty, Energetics Technology Center (ETC), USA

## International Advisory Committee (IAC)

- RuiQi Shen, Nanjing University of Science and Technology (NJUST), China
- PengWan Chen, Beijing Institute of Technology, China
- Svatopluk Zeman, Pardubice University, Czech Rep.
- Carole Rossi, University of Toulouse, France
- Thomas M. Klapötke, Ludwig-Maximilian University of Munich (LMU), Germany
- Krishnan Subramaniam, Indian Institute of Technology Madras, India
- Michael Gozin, Tel Aviv University, Israel
- Zulkhair Mansurov, Kazakh National University, Kazakhstan
- Valery P. Sinditskii, Mendeleev University of Chemical Technology (MUCT), Russia
- Vladimir E. Zarko, Institute of Chemical Kinetics and Combustion (ICKC), Russia
- Nick G. Glumac, University of Illinois, USA
- Lori J. Groven, South Dakota School of Mines and Technology, USA

## International Organizing Committee (IOC)

- Djalal Trache, Ecole Militaire Polytechnique (EMP), Algeria
- WeiQiang Pang, Xi'an Modern Chemistry Research Institute (XMCFI), China
- Volker Weiser, ICT, Germany
- Yash Pal, Hindustan Institute of Technology and Science, India
- Adriano Annovazzi (Ret.), Avio, Italy
- Luciano Galfetti, Politecnico di Milano (PoliMi), Italy
- Antonio DiBiase, Politecnico di Milano (PoliMi), Italy



# Social Program



L'Aquila



Rome

## Discover Rome with Us!

Join us for an unforgettable social guided tour of Rome following the workshop from July 10-12. Explore L'Aquila, the Vatican (including the Vatican Museums, Sistine Chapel, and St. Peter's Basilica), and the Imperial Rome landmarks like the Colosseum, Palatine Hill, and Roman Forum. Enjoy free time to experience the vibrant Roman culture and a farewell dinner to conclude this enriching journey.

### Note:

- Vatican tour: Maximum of 20 participants, €50/person (guide included). Admission is free for children up to 7 years and €8/person for ages 8-18.
- Colosseum tour: Maximum of 24 participants, €25/person (guide included)

## How to reach Italy

### Travel

### Visa Application

<https://vistoperitalia.esteri.it/home/en>

### By Plane

Flights to Rome or Milan; possibly straight to the Abruzzo airport Abruzzo Airport (PSR IATA) (less than 10 minutes from the city stop near Hotel Plaza).

## How to Reach Pescara Centre

### By Train to Pescara Central Railway Station

The train from Rome takes about four hours but it is a spectacular route through the mountains, through towns such as Avezzano and Sulmona.

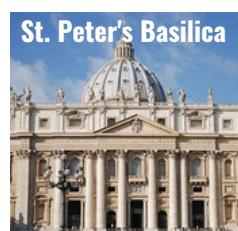
### By Car

You can drive to Pescara from Rome Ciampino Airport (only low-cost flights) in about 1½ hours and Rome Fiumicino Airport (most international flights) in about 3½ hours. The drive is relatively free of traffic through the mountains, the view is excellent and there are lots of tunnels and bridges to cross.

### Lodging in Pescara

Blocks of rooms for those attending the workshop have been reserved at **Hotel Plaza**. Since July-August is in the peak tourist season, it is recommended that hotel reservations be made early, to ensure availability of rooms.

A daily shuttle service will be provided between the **Hotel Plaza** and **Aurum**.





# 15th International Workshop on Combustion and Propulsion (IWCP)

## Venue:



Sala Tosti and Sala Pazienza,  
Aurum, Largo Gardone Riviera,  
65126 Pescara, PE, Italy



## Date:

06 - 12 JULY 2025



## Registration Fee:

Category	Early Bird (31 May 2025)	Late or On-Site
Speaker	€ 400	€ 600
Student	€ 200	€ 350
Observers	€ 600	€ 800
Companion	€ 100	€ 200

Your registration includes access to all sessions, workshop materials, welcome party, coffee breaks, a sumptuous lunch buffet, and an unforgettable banquet dinner.

**Note:** No charge for Remote Participation



## Local Tours in Rome:

10-12 July 2025

This part of the Social Program is aimed at participants' companions. Explore Italy's rich history and culture with a guided tour of L'Aquila, Vatican City, and Imperial Rome. Enjoy iconic landmarks, free time to discover Rome, and a memorable farewell dinner to conclude this unforgettable journey. The cost will be decided based on the number of participants.



## Call for Abstracts:

Acceptance of presentation requires a 1-page abstract in English submitted to the chairs by the corresponding author by April 30, 2025. Times New Roman font, 12-point size. All abstracts, whether for oral or poster presentations, will be compiled in a Book of Abstracts to be distributed at the opening of the workshop.

## For Further Information, please contact:

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