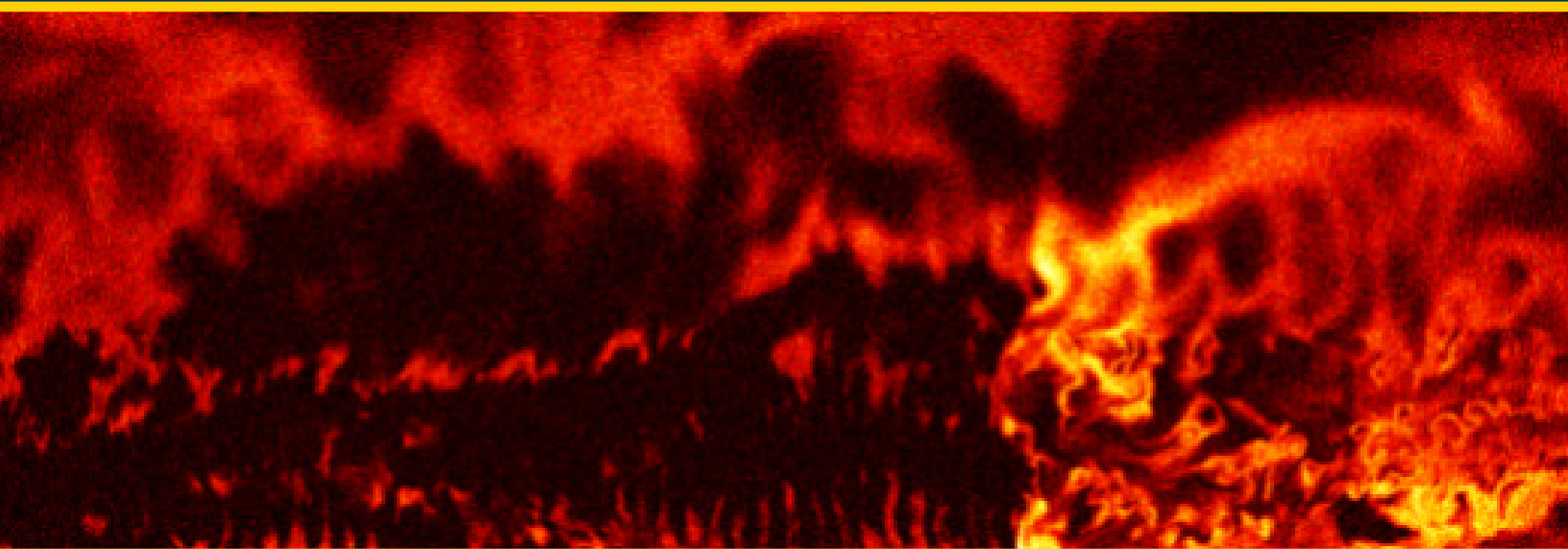


IWDP 2024

International Workshop on Detonation for Propulsion

June 10-14, 2024, University of Michigan, Ann Arbor, Michigan, USA



Join the IWDP 2024 for three days of discussion and technical exchange on detonation physics and applications.

Dear Colleagues,

We are very excited to announce the 13th International Workshop on Detonation for Propulsion (IWDP 2024) to be held in Ann Arbor, Michigan (USA) during June 10-14, 2024, hosted by the University of Michigan. On behalf of the Organizing Committee, we would like to welcome you to participate in the workshop.

DESCRIPTION

Over the years, IWDP has successfully brought together scientists and engineers from around the world to exchange cutting-edge technical achievements and new ideas in the sciences and applications of detonations for aerospace propulsion. In recent years, the international workshop has been held across the globe in Europe and Asia. We are pleased to bring the workshop to the United States for the first time in nearly 15 years.

The workshop welcomes the international community to a round table of technical discussion to exchange the latest activities, achievements and new ideas in the detonation propulsion field currently happening around the world. The workshop is organized over three days (preceded by an introductory and welcome event) of intense technical exchange, followed by an optional day-long social event. The technical program combines thematic presentations by invited speakers, technical sessions where a combination of invited speakers and open submission work will be featured, and panel discussions with invited speakers to exchange the latest innovation on pending issues of detonation for propulsion. Scientists, engineers and students in the relevant fields are welcomed to participate and present their research contributions in the workshop.

SCOPE AND TOPICS

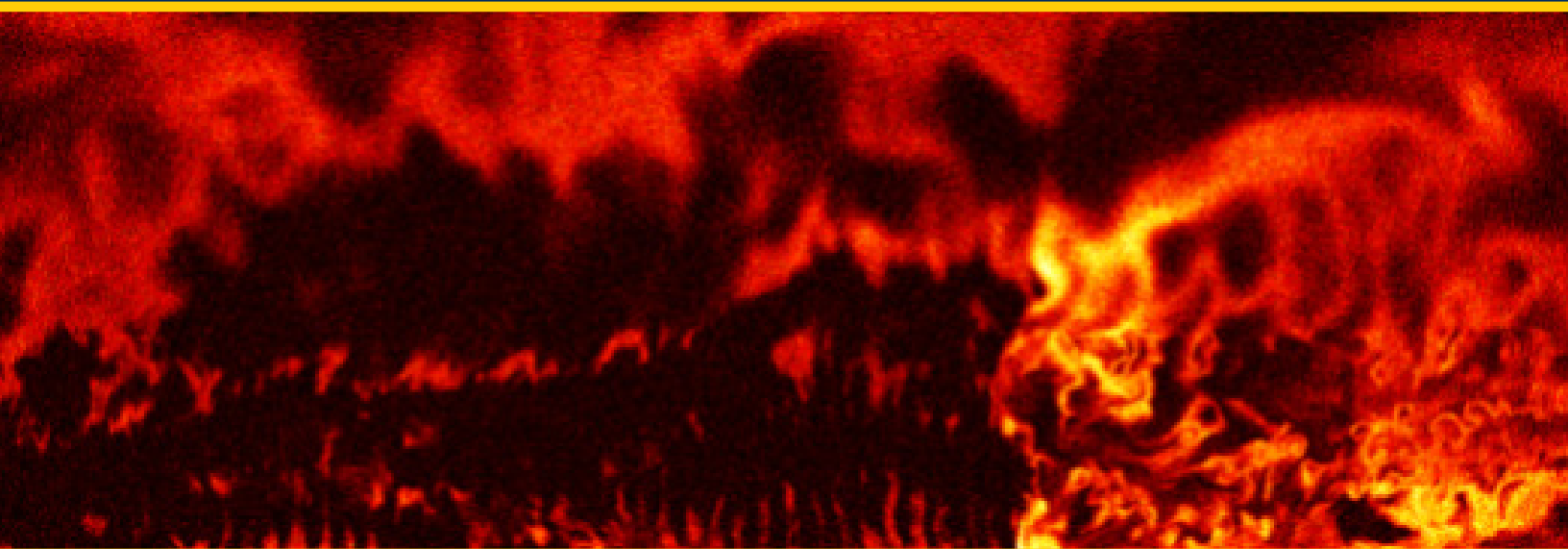
The workshop will be a collaborative meeting to discuss and exchange current advancements on fundamental and applied aspects of detonation for propulsion. The workshop will specifically focus and highlight the latest achievement in the vibrant community, with emphasis on both rotating detonation and pulsed detonation engines, for rocket and air-breathing applications. A combination of invited speakers and open submissions will drive the discussion. We particularly solicit the submission of the latest work covering the following topics:

- Evaluation of performance, including direct and indirect measurements, theoretical or analytical considerations, or computational studies.
- Diagnostic measurement methods for detonation-based propulsion.
- Data and machine learning methods for detonation-based propulsion in support of modeling, simulation and data interpretation for operation and performance quantification.
- Detonation structure and dynamics in multi-phase flows, with emphasis on liquid fuel RDEs.
- Integration with upstream and downstream components, including inlets, nozzles and turbomachinery.
- Thermal management in high heat-flux systems, including materials and integration aspects.
- Current advancements in applications of detonation-based propulsion, for both rocket and air breathing applications.

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MEETING FORMAT

After a welcome session on June 10, the meeting is organized over three days of technical presentation and discussions, interspersed by opportunities for networking and social interactions. A number of sessions, focused on specific topics relevant to detonation-based propulsion and pressure gain combustion will highlight the current progress on critical topics by the international community. Poster sessions will be offered for work-in-progress contributions.

Topical discussion will focus on pending scientific and technical challenges, while open discussion will provide opportunities for discussion of important practical issues the community faces, such as current and future technological challenges and opportunities, ways and means of advancing the technology, opportunities for international collaboration, encouraging the engagement of industry, improvement of standard practices, and other considerations that can help move technology forward.

To facilitate networking, informal discussions, and just catching up with our globally distributed friends and colleagues, the meeting will also feature social and networking events after the technical meetings. After the three-day workshop, the organizers invite participants to conclude the visit with an (optional) day-long social activity right after the technical meeting closes (Friday June 14, 2024).

INSTRUCTIONS FOR AUTHORS

Authors who wish to present current results through an oral or poster presentation should submit a short abstract for review and consideration, followed by a short paper, if accepted.

- Abstracts should be limited to between 300 and 500 words.
- Short papers should be limited a maximum of 5 pages, including figures and citations.

Templates will be provided through the meeting webpage. The short papers will be collected in a digital IWDP Short Brief collection and distributed to workshop meeting participants through the meeting webpage. Abstracts and short papers are submitted through the conference webpage. For more and up-to-date information, see the workshop webpage at aero.engin.umich.edu/IWDP2024.

IMPORTANT DATES

- Oral/poster abstract submission deadline: 15 March 2024
- Author notification of acceptance: 1 April 2024
- Short paper for oral presentations deadline: 1 June 2024
- Registration opens: May 2024
- Registration deadline: June 2024