



6-11 July 2025
ICEM21
Bologna

**21st International Conference on
EXPERIMENTAL MECHANICS**

A symposium on

Dynamic Behavior of Materials

Organised by

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Under the auspices of

**21st International Conference on
EXPERIMENTAL MECHANICS**

Bologna, Italy

6 – 11 July, 2025

<https://icem-21.org>

The understanding and characterization of materials under high strain rates are critical for a wide range of engineering and scientific applications, from defense and aerospace to automotive safety and civil engineering. High strain rate conditions significantly affect the mechanical behavior of materials, and investigating their response is essential to optimize design, ensure safety, and predict failure mechanisms. This symposium aims to bring together leading researchers and practitioners to share recent advances, experimental techniques, and theoretical models in the field of high strain rate material behavior. It will cover materials ranging from metals and composites to polymers and ceramics, emphasizing the underlying



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mechanics, failure modes, and dynamic properties that manifest at extreme loading conditions. The symposium will provide an open forum to discuss innovative approaches, challenges, and emerging trends, encouraging interdisciplinary collaborations.

We invite contributions that address various aspects of high strain rate material behavior, including experimental, numerical, and analytical studies.

Topics of Interest:

- Experimental techniques for high strain rate testing (split Hopkinson bars, plate impact, gas guns, etc.)
- Dynamic fracture and failure mechanisms in materials
- Constitutive modeling of materials under dynamic loading
- Strain rate effects on the microstructural evolution of materials
- High strain rate behavior of metals, polymers, composites, and ceramics
- Shock loading and impact resistance of materials
- Energy absorption mechanisms and materials for protective applications
- Advances in instrumentation and diagnostics for dynamic material testing
- Numerical simulations and finite element modeling of dynamic events
- Strain rate sensitivity and transition from quasi-static to dynamic behavior
- Multiscale approaches to understanding material behavior at high strain rates
- Applications in defense, aerospace, automotive, and civil structures

Selected full papers presented at this symposium will be considered for publication in a special issue of the **Journal of Dynamic Behavior of Materials (JDBM)**, ensuring high visibility and dissemination of cutting-edge research in the field.



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Abstracts of two full pages should be written in the following format (please download the template that is available in the web-specific section).

A sample abstract is available for download at:

https://icem-21.org/wp-content/uploads/2024/01/ICEM21_Abstract_Template.docx

Paper Size:

A4, single column.

Margins:

Top Page 2.5 cm; Bottom 2.5 cm, Left & Right 2 cm.

Font and line spacing:

Times New Roman; single space.

First line:

It should be left blank, size 12, reserved for the editors.

Title:

Begins at the 2nd line, capital letters, size 12, bold, centered alignment.

Authors Names:

Size 12, bold, italic, centered alignment, two lines interval from the title above.

Authors affiliation:

Size 12, centered alignment, two lines interval from the text below.

Main Text:

Size 12, full justification, 0.5 cm indentation.

Headings:

Size 12, bold, 12 pt. top spacing, 6 pt. bottom spacing.

Legends (Figs & Tables):

Size 12

References:

Full citations should be grouped at the end of the paper and in alphabetical order of first author's name. Please, use size 10 and provide inclusive page numbers for references to journal articles and a page range for books. Each reference must be cited in the text.

which can also be used as a template.

Deadline for Extended Abstracts: 31th December 2024

The conference Proceedings with the extended abstracts and full papers will be submitted for indexation in the Web of Science and made available for free access on the Internet.

For additional information, please contact the Symposium Coordinators:

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