



6-11 July 2025
ICEM21
Bologna

**21st International Conference on
EXPERIMENTAL MECHANICS**

A symposium on

Thermoelastic Stress Analysis

Organised by

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Under the auspices of

21st International Conference on EXPERIMENTAL MECHANICS

Bologna, Italy

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(<https://icem-21.org>)

Thermoelastic Effect-based Stress Analysis (TSA) is a consolidated technique that provides information on stress/strain from the object's temperature. The need for dynamic loading makes this technique attractive for characterising/monitoring materials and structures under fatigue. Infrared Thermography enables non-contact full-field analysis with low material selection, preparation and test setup requirements. The above features have made TSA a versatile option for experimental stress analysis under dynamic loading conditions.

Advances in signal processing and hardware are continuously pushing the boundaries for effective applications of TSA-based experimental setups. This symposium aims to bring together practitioners of this technique to discuss the state-of-the-art and future perspectives.

The TSA community is invited to submit abstracts in the following and related areas:

- Progresses in sampling and signal-processing strategies
- Use of low-cost infrared sensors
- Integration and data fusion with other full-field experimental/numerical techniques
- Second-harmonic analyses and higher-order Thermoelastic law
- TSA for the evaluation of fracture toughness and fatigue crack growth
- TSA for Structural Health Monitoring and damage detection
- Thermoelastic signal in anisotropic/non-homogeneous materials and structures
- Applications involving innovative and non-conventional materials
- TSA under vibration and high-frequency loading
- TSA in non-laboratory and large-scale setups
- Industrial Case Studies and Case Histories



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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: 30th November 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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