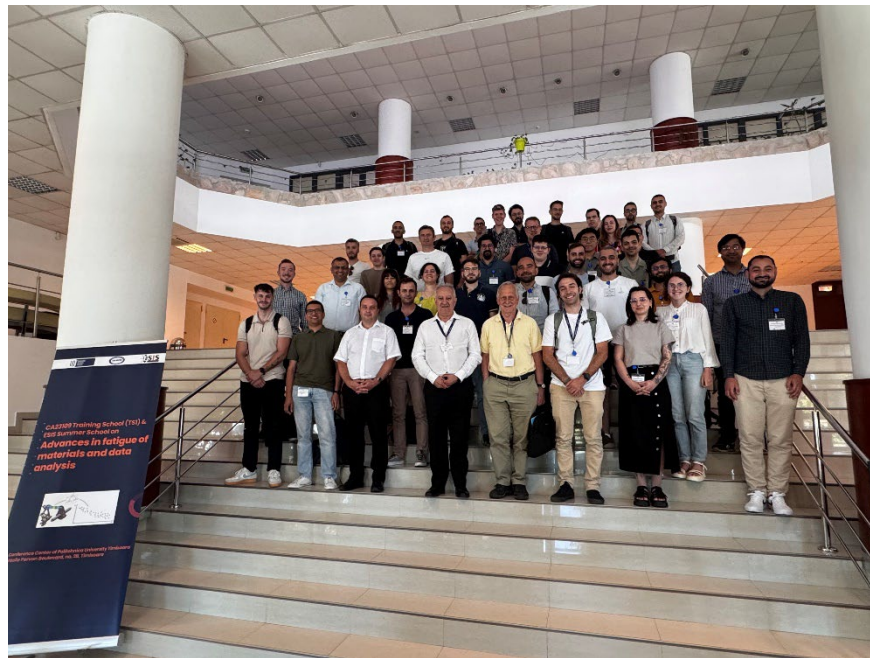
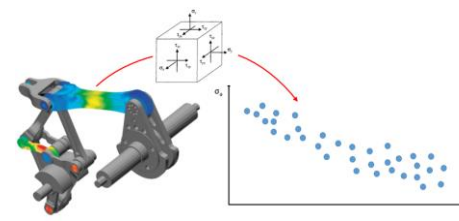


The ESIS TC13: Education and Training organized in collaboration with COST Action CA23109 Fatigue Benchmark Repository (FABER) the Summer/Training School *Advances in fatigue of materials analysis* between 2 to 5 July 2025 in Timisoara, Romania at University Politehnica Timisoara. The lectures were delivered by: Rhys Pullin (UK), Andrea Spagnoli (Italy), Vittorio DiCocco (Italy), Thierry Luc-Pallin (France), Alfonso Fernandez-Canteli (Spain), Reza Talemi (Belgium), Liviu Marsavina (Romania), Calin Popa (Romania), and Anghel Cernescu (Romania). Apart of the lectures, five training sessions were organized. In the last day of the School a Technical visit at Continental Automotive Romania was organized to visit the experimental facilities for vibration fatigue. The School was attended by 29 trainees (PhD students, young researchers, teaching staff) from 15 countries (Belgium, Denmark, Germany, Greece, Italy, Malta, Nord Macedonia, Norway, Poland, Portugal, Serbia, Spain, Turkey, Switzerland and Romania).





Call for CA23109 Training School (TS1) &

ESIS Summer School on

Advances in fatigue of materials and data analysis

2 – 4 July, 2025, Timisoara, Romania

Fatigue damage of materials and structural components is a subject of continuous scientific interest due to technological changes that bring different loading conditions and new materials. To deal with all aspects of this phenomenon, the scientific community concerned with this subject must continuously grow. Also, it is necessary that all specialists involved in the analysis of the fatigue phenomenon of materials, especially young researchers, know the current level of research and knowledge of it. This training school is the right place for young researchers to be trained in current practices in analysing, evaluating, and predicting fatigue damage of materials.

The participants of this school will benefit from the experience and knowledge of internationally recognised researchers who constantly struggle with fatigue cracking problems of mechanical components.

Program

Day 1 – 02.07.2025

09:00 – 10:00 – Participants registration
10:00 – 11:00 – (L. Marsavina) Opening ceremony + (J. Papuga) FABER project presentation
11:00 – 12:00 – Lecture 1 – Rhys Pullin – *Acoustic Emission technique for fatigue damage monitoring*
12:00 – 14:00 – Lunch
14:00 – 17:00 – Training session – Liviu Marsavina, Anghel Cernescu - *Deterministic procedures for materials fatigue data analysis*

Day 2 – 03.07.2025

09:00 – 10:00 – Lecture 2 – Andrea Spagnoli – *Application of multiaxial fatigue assessment on engineering structures*
10:00 – 11:00 – Lecture 3 – Vittorio DiCocco – *Fatigue damage analysis in additive manufacturing materials*
11:00 – 12:00 – Lecture 4 – Thierry Luc-Pallin – *Extending fatigue analysis in very high cycle regime*
12:00 – 14:00 – Lunch
14:00 – 17:00 – Training session – A. Fernandez-Canteli - *Probabilistic and normalized models for materials fatigue data analysis*

Day 3 – 04.07.2025

09:00 – 10:00 – Lecture 5 – Reza Talemi – *Advances and insights into the fretting fatigue behaviour of additively manufactured materials*
10:00 – 11:00 – Lecture 6 – Liviu Marsavina, Anghel Cernescu – *Fatigue life analysis based on FEM simulations*
11:00 – 13:00 – Training session – Calin-Adrian Popa - *Machine Learning in Data Analysis*
13:00 – 14:00 – Lunch
14:00 – 17:00 – Assessment and closing ceremony

Guidelines for applicants and registration

This training school is dedicated to young researchers with interests in the field. Those interested are asked to prepare and send an application.

The applications for TS1 should be submitted no later than **30.03.2025**. As a result, a notification of acceptance should be sent out no later than **10.04.2025**. Each applicant must confirm or reject the eCOST invitation within two weeks of receiving it.

To be eligible for the TS1 participation, the following conditions must be fulfilled:

- An eCOST account on the COST platform affiliated to one or more WG(s) available in this COST action;
- Young researchers up to 40 at the date of the application with ongoing research on fatigue of

materials: Post-docs, PhD students, Master students, and Researchers in a legal entity.

An application for TS1 should include the following:

- CV with a clear statement of age and background;
- Motivation letter (max 1 page);

Each application should be sent in a single PDF file to one of the following contact persons:

PhD Assoc. Prof. Anghel-Vasile Cernescu

anghel.cernescu@upt.ro

PhD Prof. Liviu Marsavina

liviu.marsavina@upt.ro

The applications will be assessed independently by the Training School committee of the COST Action CA23109.

The maximum number of available places is **25**.

The Grant Holder institution of CA23109 will reimburse all the participant costs based on the attendance list signed and the reimbursement claim submitted on the COST platform. Failure to provide the required supporting documents with the information mentioned above may lead to the rejection of the claim. Participants in TS1 are also requested to consult the [Annotated Rules for COST Actions](#).

Acknowledgement

This event is based upon work from COST action FABER, CA23109, supported by COST (European Cooperation in Science and Technology). COST (European Cooperation in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation.