

2021 EMI Structural Stability Student Presentation Competition

Sponsored by: EMI Stability Committee

The ASCE EMI-Structural Stability Committee is pleased to announce the Annual Student Presentation Competition for the participants of the “Structural Instabilities: from failure to function” mini-symposia of the EMI International Conference 2021 and EMI Conference 2021.

Purpose:

- To increase the involvement of younger professionals in the EMIS Conferences, especially in the area of Structural Stability.
- To allow them to interact with the Structural Stability Committee and promote further growth as engineers and researchers within the Structural Stability Community
- To seek feedback and improve their technical writing and presentation skills as well as to promote high-quality submissions to the ASCE Journal of Engineering Mechanics, the flagship journal of EMI.

Requirements:

1. Due to the cancelation of EMI 2020 conference and EMI 2020 International Conference, many 2020 abstract submissions are being directly transferred into EMI 2021 and EMI IC 2021.
2. The participant for this competition must be a student at the time of submission and be the lead author of an abstract in the areas of structural stability and failure as well as must have submitted their abstracts in the “Structural Instabilities: from failure to function” mini-symposia of either ASCE EMI Conference 2021 or ASCE EMI International Conference 2021. 2020 submissions must be confirmed with the organisers, while new entries can be submitted via each conference’s website (for EMI 2021: <https://www.emi-conference.org/> and for EMI-IC 2021 <https://sites.durham.ac.uk/emi2020-ic/>)
3. Forward the acceptance of the abstract to Dr Stylianos Yiatros (Stylianos.yiatros@cut.ac.cy) stating clearly for which conference you have applied to present and express your interest in participating in the competition. This should not be done later than the 20th of February 2021.
4. In order to confirm their participation in the competition, the participants must have registered for one of the two conferences.

Deadline:

- February 20th, 2021 – forward abstract acceptance, indicating the conference where it will be presented and an expression of interest in participating in the competition via email to Dr. Stylianos Yiatros at Stylianos.yiatros@cut.ac.cy

Prizes:

- Two winners will be selected and named as the Structural Stability Student Paper Competition Winners

- A certificate of commendation shall be sent to each winner by the Stability Committee

Process:

- The Structural Stability Committee Control Group will review the recorded presentations and avoid conflicts of interest in selecting the judges.
- The top 5-6 finalists will participate in a special session where their recorded contributions will be presented and discussed in addition to their regular presentation within their selected conference.
- The Stability Committee Members who will be present at the virtual special session will vote anonymously to rank the presentations.

The topics that are considered for the two mini-symposia include, but are not limited to:

- Instability in columns, beams, plates, shells and sandwich structures.
- Instability of members made from metallic and composite materials.
- Instability of structures with linear or nonlinear materials in the elastic or inelastic range.
- Post-buckling analysis including analytical/computational modelling and methods.
- Progressive cellular buckling and snaking.
- Development and applications of numerical continuation and generalized path-following techniques.
- Interactive buckling in thin-walled structures.
- Buckling across scales: nano, micro, thin film and lattice structures.
- Buckling in infrastructure (pipelines, rail) due to environmental or temporal factors
- Adaptive, morphing and multistable structures; applications to design and smart structures.
- Instability-driven failure of materials including cracks, delaminations and micro-buckling.
- Orthotropic and anisotropic material-related instability problems.
- Dynamic stability problems including energy absorption systems or crashworthiness analysis.
- Instabilities in layered and granular media including shear and kink band formation.
- Experimental techniques for structural and material stability tests.
- Non-local mechanics including instabilities in systems with non-local effects.