Special Issue

Composite Thin-Walled Structures: Stability and Damage

Message from the Guest Editor

Thin-walled composite and hybrid members are vital to lightweight structures, yet their anisotropy and layup sensitivity challenge stability and damage tolerance. This Special Issue calls for research on buckling, post-buckling, vibration, fatigue, and damage in such systems. We welcome contributions that bridge mechanics, efficient modeling, and experiments. Topics include: reduced-order approaches like Generalized Beam Theory (GBT) for global and local modes in laminates; coupling beam formulations with FE, XFEM, or machine learning surrogates; studies on imperfection sensitivity and damage progression; full-field techniques (e.g., DIC); and probabilistic design. Applications span aerospace, civil, marine, and energy sectors where resilience is critical. This Issue aims to consolidate advances and outline future priorities for robust design by uniting theorists, modelers, and experimentalists.

Guest Editor

Dr. Navid Kharghani

Institute for Lightweight Engineering and Structural Mechanics (LSM), Department of Mechanical Engineering, Technical University of Darmstadt, Darmstadt, Germany

Deadline for manuscript submissions

10 June 2026

Journal of Composites Science

an Open Access Journal by MDPI

Impact Factor 3.7
CiteScore 5.8

mdpi.com/si/261191

Journal of Composites Science
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
jcs@mdpi.com

mdpi.com/journal/jcs

MDPI

Journal of Composites Science

an Open Access Journal by MDPI

Impact Factor 3.7
CiteScore 5.8

mdpi.com/journal/jcs

About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Dr. Francesco Tornabene
Department of Innovation Engineering, University of Salento, 73100 Lecce, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, ESCI (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Materials Science, Composites) / CiteScore - Q1 (Engineering (miscellaneous))

MDPI