Advances in Materials Science and Engineering

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Special Issue on

Advanced Materials and Technologies for Structural Performance Improvement

CALL FOR PAPERS

Growing attention is currently being paid to the development of advanced materials and technologies for application to new and existing structures, infrastructures, and equipment, with the aim of improving their performance against service and extreme loads.

Increased performance requirements are a consequence of a shift from traditional prescriptive strength-based codes to the performance-based approaches permeating the 21st century generation of Technical Standards worldwide. This imposes to pursue more articulated and demanding design objectives for load combinations including earthquake or wind action.

At the same time, other natural, or accidental and intentional events, such as blasts, impacts, fires, and explosions, are being progressively incorporated in design and verification analyses.

The effects of gravitational loads are being reassessed too, since their long-term action can remarkably affect the physical and mechanical properties of the materials constituting the load-bearing system.

New or improved building materials, as well as innovative structural protection technologies, offer effective solutions to the constantly increasing performance requirements in structural design and rehabilitation. At the same time, they open novel and challenging research perspectives for academicians.

The objective of this special issue is to provide readers with the latest research and application achievements in this field, including emerging aspects in theoretical, analytical, numerical modelling, testing, and practical implementation studies.

We encourage and invite the authors to submit original research articles as well as review papers.

Potential topics include, but are not limited to:

- New structural materials
- Improved traditional structural materials
- Last generation of fiber reinforced plastics (FRP) materials for structural applications
- Passive, semiactive, and active energy dissipation systems
- Protective materials and systems against blast, impact, fire, and explosion
- Isolation systems against base excitation vibrations
- Analytical and numerical modelling of new materials and technologies
- Advanced nonlinear finite element analysis of building materials
- On-site field and laboratory testing
- Identification of load-processes and system parameters

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/amse/amti/.

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