

Title : Multiphysics Mechanics of Smart and Functionally Graded Materials

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Abstract

This symposium focuses on recent advances in the multiphysics mechanics of smart and functionally graded materials (FGMs), with emphasis on solid mechanics and coupled solid systems. It welcomes theoretical, analytical, numerical, and computational studies addressing stress, deformation, vibration, stability, wave propagation, thermal effects, and thermo-mechanical coupling. Contributions employing finite element, finite difference, finite volume, boundary element, mesh-free, spectral, multiscale, and other advanced methods are encouraged. The issue aims to promote innovative modelling and simulation approaches for the analysis and design of next-generation smart and functionally graded engineering systems.

Topics of Interest

- Smart materials
- Functionally Graded Materials (FGMs)
- Multiphysics mechanics
- Solid mechanics
- Mathematical modelling
- Analytical methods
- Numerical methods
- Computational mechanics
- Finite element method
- Finite difference method
- Finite volume method
- Boundary element method
- Mesh-free methods
- Thermo-mechanical coupling
- Poroelasticity
- Vibration and stability
- Wave propagation
- Multiscale modelling
- Advanced engineering materials

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