Stochastics and probability in engineering mechanics

Organizers:

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Development of stochastic and reliability-based tools addressing unresolved issues in structural analysis is becoming an important topic in engineering mechanics. Consequently, random vibrations and probability topics are a wide and primal research field for most of the engineering branches, with several scientific efforts in investigating innovative solutions.

Probabilistic solutions are capable to overcome many of the drawbacks commonly affecting classical deterministic approaches in several fields. As an example, random vibration and reliability theories are essential tools for performing nonlinear dynamic analyses in civil, mechanical and aerospace engineering. Furthermore, random fields have been profitably employed in solving buckling problems as well as in addressing analyses of composite structures. Moreover, the growing interest about the interpretation of experimental data makes stochastics and probability unneglectable topics.

This minisymposium aims to collect all the scientific contributions based on stochastic and probability solutions, providing a forum to discuss about advantages, unresolved issues and new perspectives in this field. It tries to gather researchers and scholars devoted to probabilistic methods hoping to develop a proper community focused on dealing with this emerging challenge.

The minisymposium, organized on behalf of the GMS (Gruppo di Meccanica Stocastica – Stochastic Mechanics Group) affiliated AIMETA. The Group gathers researchers dealing with stochastic mechanics issues and is devoted to encourage, scientific interactions, expertise exchange and discussions among its members.