International Conference

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University of Perpignan Via Domitia, France

EMERGING TRENDS IN APPLIED MATHEMATICS AND MECHANICS

Stochastic Mechanics and Mathematics

Organized by

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While conventional continuum mechanicsis based on the concept of a homogeneous medium, major challenges in modern mechanics of materials are due to the presence of random microstructures. In general, the microstructures display multiple length scales, possibly of fractal character. Examples of such materials include composites, granular media, metals, biomaterials, and geomaterials.

This symposium will provide a perspective on ongoing and recent advances in mechanics and mathematics of such materials, involving analytical, computational, and experimental methods. The richness of microstructural geometries, interesting physics, and challenges posed in setting up diverse models are among the hallmarks of works to be presented. The methods and results discussed here have bearing on other areas of stochastic mathematics, such as turbulence theory or stochastic partial differential equations.