

**11th. World Congress on Computational Mechanics (WCCM XI)**  
**20-25 July 2014 – Barcelona, Spain**

**Minisymposium Proposal**

Title:

**Numerical methods for wave propagation problems and design applications**

Organizers:

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This minisymposium is to provide a forum for discussing state-of-the-art computational methods for solving problems related to wave propagation problems and their applications to various design problems in engineering. Wave propagation phenomena are important themes often related in noise and vibration problems, photonic crystals and phononic crystals/structures, and developing effective numerical techniques for analyses of wave propagations in periodic structures are drawing attentions related with applications to lasers, waveguides, optical devices, noise/vibration absorbing structures, etc.

In this minisymposium, papers are solicited in the topics: numerical simulations for photonic crystals and phononic crystals/quasicrystals, and meta materials, parameter and topology designs of photonic/phononic crystals, plane-wave expansion (PWE) methods, finite-difference time-domain (FDTD) methods, finite element methods (FEM), boundary element methods (BEM), fast multipole methods, and other novel numerical techniques and applications related to wave propagation problems.