SPEAKER:
Zhongwei Shen, University of Kentucky

TITLE:
Uniform Boundary Controllability and Homogenization of Wave Equations

ABSTRACT:
This is a joint work with Fanghua Lin. We obtain sharp convergence rates, using Dirichlet correctors, for solutions of wave equations in a bounded domain with rapidly oscillating periodic coefficients. The results are used to prove the exact boundary controllability that is uniform in the small parameter $\epsilon$ - the scale of the microstructure, for the projection of solutions to the subspace generated by the eigenfunctions with eigenvalues less than $C\epsilon^{-2/3}$. 