



## Discrete Mathematics Seminar

Time: Friday, September 28, 2018, 2:15 - 3:15 PM  
Location: 330 Derrick Hall  
Title: An Algebraic Multiscale Method  
Speaker: Dr. Dongwoo Sheen, Department of Mathematics, Seoul National University

### **Abstract:**

We present an algebraic multiscale method. The idea is motivated from the algebraic multigrid method (AMG) which is an iterative scheme to accurately approximate a linear system. Our approach differs in investigating in how to obtain a rough approximation to the original algebraic system arising from modeling heterogeneous materials. We discuss in detail how macroscopic basis functions can be formulated and result in a reduced macroscopic linear system based on the knowledge of microscopic linear system, with significant reduction of dimension.