

TEMPLE UNIVERSITY  
Department of Mathematics

# Applied Mathematics and Scientific Computing Seminar

Wednesday, 19 April 2017, 4:00 p.m.  
Room 617 Wachman Hall

(refreshments and social at 3:45 p.m)

## Non-Overlapping Domain Decomposition Methods for the Helmholtz Equation

by Yassine Boubendir  
New Jersey Institute of Technology

**Abstract.** In this talk, we will start by reviewing non-overlapping domain decomposition algorithms for the Helmholtz equation. We will show how these techniques can be used to efficiently combine boundary and finite elements. We will also explain the difficulty in the design of optimal transmission conditions that can improve the iterative procedure. Finally, we will discuss some recent conditions based on the approximation of the Dirichlet to Neumann operator.