**NILIMA NIGAM**, Simon Fraser University
*Steklov eigenfunctions: how and why to compute them*

In this talk we present a fast and accurate discretization strategy for computing the Steklov eigenpairs of the Laplacian. We'll also present recent result on the use of this method for three distinct problems: the spectral asymptotics of the Steklov eigenvalues on regular polygons, spectral optimization, and the solution of Robin problems.