NILIMA NIGAM, Simon Fraser University
Structure-preservation and the Steklov eigenfunctions

Spectral methods for elliptic and time-dependent PDE - in which the approximation space consists of eigenfunctions of the underlying operator - exhibit excellent accuracy properties and are naturally structure-preserving. Most spectral methods in practice use either Dirichlet or Neumann eigenfunctions for this purpose.

In this talk I'll motivate and describe the use of Steklov eigenfunctions as a spectral basis, particularly when solving boundary value problems with mixed data. This is joint work with K. Imeri.