SPEAKER:

Katharine Ott, Bates College

TITLE:

Mellin analysis techniques for boundary value problems

ABSTRACT:

In this talk I will discuss the use of Mellin transforms to prove sharp invertibility results for layer potential operators acting on $L^p(\partial\Omega)$, $1 < p < \infty$, whenever Ω is an infinite sector in $\mathbb{R}^2$. This analysis is relevant to the layer potential treatment of boundary value problems in domains that are infinite sectors in the plane. I will address two examples: the Neumann problem for the bi-Laplacian and the mixed problem for the Laplacian.