DIFFERENTIAL OPERATORS AND THE GEOMETRY OF DOMAINS IN EUCLIDEAN SPACE

Abstract

In this talk we will introduce an area of analysis that is concerned with the extent to which differential operators, and the properties of their solutions, determine the geometry of the domain on which they are considered. We will initially describe the case where the differential operator sees the domain as a homogeneous medium. We will contrast this with several inhomogeneous cases and mention some recent results in that direction. The tools used come from analysis of partial differential equations, harmonic analysis, and geometric measure theory.

Thursday, January 16, 2:15–3:05 pm

Four Seasons Ballroom 2, 3, 4, Lower Level
Colorado Convention Center

The AMS Council established this Lecture in 2018 to honor Maryam Mirzakhani (1977–2017), the first woman and the first Iranian to win a Fields Medal. Mirzakhani was a professor at Stanford University and a highly original mathematician who made a host of striking and influential contributions to hyperbolic geometry, complex analysis, topology, and dynamics.