İSTANBUL ANALYSIS SEMINARS

DENSITY OF MULTIVARIATE POLYNOMIALS ON CONVEX AND STARLIKE DOMAINS

András KROÓ

Alfréd Rényi Institute of Mathematics
Division of Analysis

Abstract: A central question in Approximation Theory concerns the possibility of approximation of continuous functions by various families of polynomials, that is **density** of classes of polynomials. On one hand the density of a given polynomial family depends on the algebraic structure of this set. In addition, in the multivariate case the question of density is also intricately related to the geometric properties of the underlying domain on which the approximation is studied.

In the present talk we shall explore this interplay between algebraic and geometric properties in the study of density of various families of multivariate polynomials on compact subsets of $\mathbb{R}^d$, in particular **convex bodies** or **starlike domains**. The families of polynomials will include multivariate homogeneous polynomials, convex polynomials and incomplete polynomials.

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Place: Sabancı University, Karaköy Communication Center
Bankalar Caddesi 2, Karaköy 34420, İstanbul