Speaker: A. Poltoratski

Title: Krein - de Branges theory in Spectral Analysis.

Abstract:

The Krein - de Branges theory of Hilbert spaces of entire functions was created in 1940-60's to treat spectral problems for second order differential operators. It translates such problems into the language of complex and harmonic analysis, entire functions and singular integrals.

Since its creation the theory outgrew its original purpose. Multiple connections with other areas of analysis have been discovered. The latest additions to this list are connections to number theory and the Riemann Hypothesis that surfaced in the last 5-7 years.

In my talk I will discuss the basics of the theory and some of its newly found applications.