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Workshop On
The Kadison Singer Problem

15-16 May 2015

Abstract

The Kadison-Singer problem, formulated in 1959 by Richard Kadison and Isidore Singer was one of the outstanding problems in operator algebras. Over the years, researchers in diverse areas of mathematics realized that this problem was equivalent to several other concrete problems. This problem was solved in 2013 by Adam Marcus, Daniel Spielman and Nikhil Srivastava.Their proof contains a variety of very deep insights and their techniques are likely to be of interest to people working not merely in functional analysis, but also areas like harmonic analysis, signal processing, graph theory and random matrix theory.

Speakers :

Betül Tanbay (Boğaziçi University)

Mohan Ravichandran (Mimar Sinan Fine Arts University)

Schedule :

Friday, May 15

11:00-12:00 **Tanbay** *The history of the KSP. The various approaches over the years, including Anderson's paving formulation.*

13:00-14:30 **Ravichandran** *High level outline of the Marcus-Spielman-Srivastava proof.*

15:00-16:30 **Ravichandran** *The proof of the Restricted invertibility principle. Real stable and hyperbolic polynomials.*

Saturday, May 16

10:00-11:30 **Ravichandran** *Multivariable interlacing, multivariate barrier functions, The proof of the KSP.*

12:00-13:30 **Ravichandran** *Generalization of the MSS theorem to hyperbolic polynomials. Open problems.*

Place : IMBM Seminar Room, Boğaziçi University South Campus