TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, November 9, 2015, 2:40 p.m.

Harmonic analysis on compact manifolds and metric-measure spaces

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Abstract: In the first part of the talk I will present my approach to the Weyl's formula for the number of eigenvalues of elliptic operators on compact Riemannian manifolds. I will also discuss extensions of my method to sub-elliptic operators on manifolds. Then I will combine these two situations by considering Weyl's law in the setting of metric-measure spaces.

In the second part of the talk I am planning to report on my results about Kolmogorov n-widths of balls in Sobolev spaces on manifolds and metric-measure spaces. The notion of n-widths of subsets in linear spaces was introduced by Kolmogorov in 1936 and it plays important role in some parts of Harmonic Analysis and Information Theory.