TEMPLE UNIVERSITY
Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, March 16, 2014, 2:40 p.m.

Can you hear the metric on a sphere?

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Asking whether you can "hear" a geometric attribute of a surface is an informal way of asking about the relationship between the attribute and the vibration frequencies of the surface. In the simple setting of metrics on a two-dimensional sphere that are invariant with respect to a natural circle action, we examine situations in which the metric can be determined by the first two terms in the asymptotic expansion of a natural measure associated with the vibration frequencies and the action. The talk is based on joint work with Diana Macedo and Rosa Sena-Dias.