DIFFERENTIAL GEOMETRY/PDE SEMINAR

THURSDAY, OCTOBER 11, 2012
PADELFORD C-401
2:30PM–3:30PM

Can one hear the shape of a triangle?

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This talk is based on joint work with Zhiqin Lu. Many problems in spectral theory are motivated by the question: what geometric properties can be detected if one knows certain spectral information? In this talk, I will discuss the "fundamental gap" of simplicial domains in R^n in general, and the properties of the "gap function" on the moduli space of Euclidean triangles in particular. The fundamental gap is the difference between the first two Dirichlet eigenvalues of the Laplacian, and the gap function is this difference multiplied by the square of the diameter of the domain. It turns out that the gapfunction detects the equilateral triangle within the moduli space of Euclidean triangles.

For more information about this seminar, visit the DG/PDE Seminar Web page (from the Math Department home page, `www.math.washington.edu`, follow the link **Seminars, Colloquia, and Conferences**).