

1056-58-869

**Julie Rowlett\*** ([rowlett@math.uni-bonn.de](mailto:rowlett@math.uni-bonn.de)), Hausdorff Center for Mathematics, Villa Maria  
Endenicher Allee 62, 53115 Bonn, Germany. *Spectral problems for polygons.*

This talk focuses on some spectral problems for polygons, and triangles in particular. We will discuss recent progress with Z. Lu on the fundamental gap conjecture for triangles and related open questions whose statements are pleasantly simple. For example,

*Can one hear the shape of a triangle with a “real” ear?*

–Chang, DeTurck, Lu

In conclusion, we will discuss some open extremal spectral problems for polygons and offer ideas. (Received September 18, 2009)