



The Math Colloquium  
Department of Mathematics  
San José State University



**Aaron Abrams**  
Emory Univ./MSRI

*Cutting a square into triangles*

NOVEMBER 16, 2011, MH320

**Abstract:** Suppose you want to cut the unit square into triangles. What are the possibilities for the set of areas of the triangles? It turns out there are some restrictions: for instance, a theorem of P. Monsky says that you can't make all the areas equal unless the number of triangles is even.

In general, it turns out that once you decide on the combinatorics of the triangulation, there will always be a polynomial relation that the areas are guaranteed to satisfy. This polynomial tends to be quite complicated. Its degree, however, is a computable integer invariant of the triangulation. In this talk we will discuss our attempts to understand this invariant.

*Background:* No particular prerequisites beyond knowing what a polynomial is. Some familiarity with basic linear algebra will help.

**About the speaker:** Aaron Abrams is a mathematician who studies all sorts of problems involving geometry, topology, group theory, combinatorics, and probability. He is currently visiting MSRI as a Research Member.

SNACKS IN MH331B AT 2:30 PM

TALK STARTS AT 3 PM

For more information, see our full schedule at:

<http://www.math.sjsu.edu/~hsu/colloq/>