



The Math Colloquium  
Department of Mathematics  
San José State University



# Moon Duchin

University of Michigan, Ann Arbor

*Geometrical Paradoxes*

SEPTEMBER 10, 2008, MH320

**Abstract:** The famous Banach-Tarski paradox says something that seems surprising: It is possible to take a solid ball in three-dimensional space, divide it into five pieces, apply spatial rotations to those five pieces, and in the end find that you've reassembled two solid balls, each the same size as the original. How does this work? I'll give some context for this phenomenon, both algebraically and geometrically, and talk about some contiguous research areas.

*Background:* It will be helpful to understand the difference between countable and uncountable sets and to have some exposure to groups, but it is not necessary. No other background is required.

*About the speaker:* Moon Duchin is a postdoctoral assistant professor at the University of Michigan, Ann Arbor. She completed her Ph.D. at the University of Chicago in 2005, and she has also held a postdoctoral position at UC Davis, where she led an NSF Research Focus Group in Geometric Group Theory.

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/>