



The Math Colloquium
Department of Mathematics
San José State University



Rachel Roberts

Washington University in St. Louis/MSRI

Train tracks on surfaces

APRIL 7, 2010, MH320

Abstract: A surface is a space in which around every point we can find a copy of an open 2-dimensional disc. A key tool in the understanding of surfaces and nice functions (homeomorphisms) between them is an object called a train track. We will define train tracks, give lots of examples, and outline Hatcher's train track proof of Thurston's classification of homeomorphisms of surfaces.

Train tracks generalize in an interesting way to objects which are important in the study of 3-manifolds (which are the 3-dimensional analogues of surfaces) and foliations (which are nice decompositions of 3-manifolds into surfaces).

Background: Familiarity with the formal definition of continuity (e.g., a first course in analysis).

About the speaker: Rachel Roberts received her Ph.D. from Cornell University and is a professor of mathematics at Washington University in St. Louis. She is currently visiting the Mathematical Sciences Research Institute (MSRI) in Berkeley. She is a topologist, interested in particular in foliations and 3-manifolds.

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/>