The Math Colloquium
Department of Mathematics
San José State University

Ellen Veomett

CSU East Bay

Discrete Isoperimetric Inequalities:
Making "Balls" in a World of Dots

SEPTEMBER 15, 2010, MH320

Abstract: Say you are given a rubber band which is not rubbery at all; in fact, its length is fixed. You are asked to make a shape with the largest possible enclosed area. What kind of shape would you make? This question is an instance of an *isoperimetric inequality*: Given a fixed "perimeter", find the shape with the largest "area". In this talk, we discuss what kind of shapes arise when we consider discrete spaces, such as all integer points, or all integer points within a box. The shapes of some of these "balls" may surprise you!

Background: One semester of undergraduate analysis.

About the speaker: Ellen Veomett received her Ph.D. at the University of Michigan and is currently an Assistant Professor at CSU East Bay. Her current research involves discrete geometry and Banach space geometry.

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/