

1077-B1-1776 **Susan Goldstine*** (sgoldstine@smcm.edu) and **Ellie Baker**. *Building a Better Beaded Bracelet: Transformations, Tessellations, and Tori*.

Jewelry fashioned from bead crochet ropes has caught the imagination of crafters and trendsetters every few decades for the past century, and bead crochet bracelets are in the midst of a surge in popularity. A bracelet consists of a narrow tube of crocheted seed beads sewn together to form an uninterrupted hollow band. Creating symmetric color patterns on bead crochet bracelets is challenging because the beads form a continuous spiral along the length of the bracelet, making it difficult to align design motifs uniformly.

We have devised a new technique for translating bracelet patterns into plane tilings and used this to create bracelet designs substantially more intricate than those available in current pattern books. This talk centers around bracelets based on Escher-style tessellations of the plane and on wallpaper symmetry patterns, and it includes a classification of the wallpaper groups that can be adapted into bracelet form. (Received September 20, 2011)