



Berlin
Mathematical
School

BMS Friday Colloquium

Friday 6 June 2014 at 14:15

Tea & Cookies starting at 13:00

BMS Loft, Urania, An der Urania 17, 10787 Berlin

Craig S. Kaplan (*U Waterloo*)

Metamorphoses and Deformations of Tilings

Tilings of the plane play an important role in art and ornamental design. In most practical settings, tilings make repeated use of a small number of distinct shapes, but some artists have experimented with tilings that evolve in the plane. The artist M. C. Escher famously incorporated several forms of metamorphosis into a number of his prints. Inspired in part by Escher, William Huff and his students created abstract line drawings called "Parquet Deformations". As part of his research on applications of computer graphics in ornamental design, Kaplan has developed several algorithms that automate the construction of some metamorphoses and deformations. This research brings together ideas from mathematics, computer science and art.

In his talk, Kaplan will discuss the use of metamorphosis by Escher and Huff, and then survey the mathematical and computational techniques that he has developed to create new designs in this curious style.

Craig Kaplan is a Canadian computer scientist who specializes in the use of computer graphics in art, ornament and design. He received his doctorate in 2002 from the University of Washington. In 2003, he started as a faculty member at the University of Waterloo, where he is now Associate Professor at the Computer Graphics Lab in the David R. Cheriton School of Computer Science. Kaplan is also editor of the *Journal of Mathematics and the Arts*, and assists in organizing the Bridges Conference, an annual event about art and mathematics. He is currently on a one-year research visit at University College London.

