ANNA LUBIW, University of Waterloo

Morphing Planar Graph Drawings

Given two straight-line planar drawings of a graph, is there a *morph* between them, i.e. a continuous transformation that preserves straight-line planarity?

In 1944, Cairns proved that the answer is yes, but his morph used an exponential number of discrete steps. I will present a polynomial time morph (this is joint work with a group of people). Furthermore, the morph is composed of *unidirectional* steps in which vertices move parallel to one line (this part is joint with Fidel Barrera-Cruz and Penny Haxell).