

Constructing real algebraic curves by using tropical geometry.

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One of the origins of tropical geometry is Viro's combinatorial patchworking techniques, a powerful tool to construct real algebraic curves in the plane with specified topological properties (number and arrangement of ovals). In my talk, I will try to give an overview on the generalizations of this technique provided by tropical geometry and discuss two applications: The topological classification of real rational nodal quintics in the plane (joint work with Itenberg and Mikhalkin) and the computation of *real* double Hurwitz numbers (joint work with Markwig). [No prior knowledge of tropical geometry or Viro's patchworking will be required.]