

Algebra and Dynamics of Surface Homeomorphisms

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Abstract: Surface homeomorphisms can be studied from topological, geometric, analytic and dynamical perspectives. The relations between these approaches is fascinating and has led to some interesting discoveries. I'll discuss this topic in general, then narrow the focus to discuss joint work with Benson Farb and Dan Margalit. I'll try to explain why a homeomorphism which is "algebraically complicated" must necessarily be "dynamically complicated". The proofs are geometric-topological.