

Peter Hilton Memorial Lecture - 2018

Speaker: Vaughan Jones, Vanderbilt University



Title: Local scale transformations in one dimension

Time: Thursday April 12, 2018, 3:00 p.m.

Location: Binghamton University, Academic Building A, Room G023

The lecture will be followed by a reception at 4:30 p.m. in The President's Reception Room, Anderson Performing Arts Center, Binghamton University. This reception is for the whole Binghamton Mathematics Community as well as for our visitors.

Abstract: In two dimensional conformal field theory, local scaling symmetry means invariance of some kind under conformal transformations. The quantum theory splits into two one dimensional theories called the “chiral halves”. Conformal invariance then gives a projective representation of the the diffeomorphism group (of the line or the circle) on each of the chiral halves. In an attempt to approximate this local scaling invariance we have considered the Thompson groups F and T as approximations to the diffeomorphism groups. Though this does not work perfectly, it has yielded a kind of “topsy turvy” version of chiral CFT including an interesting family of unitary representations of F and T whose coefficients give, among other things, a way to construct all knots and links from elements of F and T , analogous to the standard construction from the braid groups.

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