Clinton Conley* (clintonc@andrew.cmu.edu). Measurable chromatic numbers.

The chromatic number of a graph, the least number of colors required to paint the vertices so that no two adjacent vertices share a color, can change drastically when various measurability constraints are placed on the coloring function. In this talk we survey several results over the past few years analyzing Borel and \( \mu \)-measurable (with respect to some fixed Borel probability measure \( \mu \)) chromatic numbers, highlighting connections with ergodic theory. In particular, we pay special attention to graphs with hyperfinite/amenable connectedness relation: even in this special case the ability to discard a null set can have a big impact on how many colors are necessary. The talk will include joint work with Jackson, Kechris, Marks, Miller, Seward, and Tucker-Drob. (Received September 20, 2016)