1131-60-120   **Lewis Bowen*** (`lpbowen@math.utexas.edu`), 1 University Station C1200, Austin, TX 78712.
Random interlacements and the Gaboriau-Lyons problem.

The von Neumann-Day problem asks whether every non-amenable group contains a non-abelian free group. It was answered in the negative by Ol'shanskii in the 1980's. The measurable version is still open. I will explain a recent positive answer in the case of Bernoulli shifts. The proof uses an approximation to the random interlacement process by random collections of geometrically-killed random walk paths. (Received July 10, 2017)