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**Endre Csoka, Oleg Pikhurko and Gabor Lippner\*** (g.lippner@neu.edu). *Measurable Graph Theory*.

”Graphings” are a natural generalization of finite graphs on probability measure spaces. These objects arise naturally as limits of finite graphs, as well as from the study of invariant random processes on discrete groups.

Measurable graph theory studies graphings from the perspective of classical graph theory. It lies at the crossroads of ergodic theory and discrete mathematics. I will explain how to generalize standard notions (matchings, chromatic number, expansion, etc) to graphings and survey recent results on the surprising behavior of these notions in the measurable setting. (Received July 17, 2016)