Department of Mathematics, BGU

# BGU Probability and Ergodic Theory (PET) seminar

**On** *Thursday, November ,19 2020*

**At** *11:10 − 12:00*

**In** *Online*

Ariel Yadin (Ben-Gurion University)

will talk about

## Non-trivial phase transition in percolation

Abstract: In 1920 Ising showed that the infinite line Z does not admit a phase transition for percolation. In fact, no "one-dimensional" graph does. However, it has been asked fi this is the only obstruction. Specfiically, Benjamini & Schramm conjectured in 1996 that any graph with isoperimetric dimension greater than 1 will have a non-trivial phase transition.
We prove this conjecture for all dimensions greater than .4 When the graph is transitive this solves the question completely, since low-dimensional transitive graphs are quasi-isometric to Cayley graphs, which we can classfiy thanks to Gromov's theorem. This is joint work with H. Duminil-Copin, S. Goswami, A. Raufi, F. Severo.

**Please Note the Unusual Place!**