

Department of Mathematics, BGU

Combinatorics Seminar

On Monday, April, 30 2018

At 14:10 – 15:10

In 101-

Gabriel Nivasch (Ariel University)

will talk about

Grid peeling and the affine curve-shortening flow

Abstract: Experimentally, the convex-layer decomposition of subsets of the integer grid (“grid peeling”) seems to behave at the limit like the affine curve-shortening flow. We offer some theoretical arguments to explain this phenomenon. In particular, we derive some rigorous results for the special case of peeling the quarter-infinite grid: We prove that, in this case, the number of grid points removed up to iteration n is $\Theta(n^{3/2} \log n)$ and moreover, the boundary at iteration n is sandwiched between two hyperbolas that are separated from each other by a constant factor. Joint work with David Eppstein and Sarel Har-Peled