Ben Gurion University – Mathematics
Algebraic Geometry and Number Theory Seminar

Speaker	**Michael Temkin (HU)**
Title	**Logarithmic desingularization and semistable reduction**
Date	Wednesday, 19 April 2017
Time	15:10 – 16:30 (starts 15:10 sharp)
Location	Room -101 in Building 58

Abstract

I will tell about my work in progress with D. Abramovich and J. Wlodarczyk. We construct a canonical desingularization of log varieties of characteristic zero, which is functorial with respect to all log smooth morphisms (including Kummer coverings). The same algorithm should provide semistable reduction theorem for schemes and formal schemes over valuation rings of residue characteristic zero (work in progress), with the only technical difficulty coming from non-noetherianity. Our algorithm is a logarithmic adjustment, and even simplification, of the usual desingularization algorithm (we use the version of Wlodarczyk). Naturally, it runs by a canonical principalization of ideals on log smooth varieties. A surprising fact, though, is that in order to have the strongest functoriality we have to work with log smooth DM stacks and non-representable modifications that we call Kummer blow ups.

(updated 6 April 2017)