Department of Mathematics, BGU

# Algebraic Geometry and Number Theory

**On** *Wednesday, May ,3 2017*

**At** *15:10 – 16:30*

**In** *Math 101-*

Ishai Dan-Cohen (BGU)

will talk about

## Connectedness and concentration theorems in rational motivic homotopy theory

Abstract:

**Ben Gurion University – Mathematics**

**Algebraic Geometry and Number Theory Seminar**

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| *Speaker* | **Ishai Dan-Cohen (BGU)** |
| *Title* | **Connectedness and concentration theorems in rational motivic homotopy theory** |
| *Date* | Wednesday, 3 May 2017 |
| *Time* | 15:10 – 16:30 (starts 15:10 sharp) |
| *Location* | Room -101 in Building 58 |

*Abstract*

A central ingredient in Kim's work on integral points of hyperbolic curves is the ``unipotent Kummer map'' which goes from integral points to certain torsors for the prounipotent completion of the fundamental group, and which, roughly speaking, sends an integral point to the torsor of homotopy classes of paths connecting it to a fixed base-point. In joint work with Tomer Schlank, we introduce a space Omega of rational motivic loops, and we construct a double factorization of the unipotent Kummer map which may be summarized schematically as

points ---> motivic points ---> Omega-torsors ---> pi_1-torsors.

Our ``connectedness theorem'' says that any two motivic points are connected by a non-empty torsor. Our ``concentration theorem'' says that for an affine curve, Omega is actually equal to pi_1.

(updated 19 Apr 2017)