

Department of Mathematics, BGU

Algebraic Geometry and Number Theory

On *Wednesday, November ,16 2016*

At *15:10 – 16:30*

In *Math 101-*

Moshe Kamensky (BGU)

will talk about

A general theory of fields with operators

Abstract:



Ben Gurion University - Mathematics
Algebraic Geometry and Number Theory Seminar

Speaker **Moshe Kamensky (BGU)**
Title **A general theory of fields with operators**
Date Wednesday, 16 November 2016
Time 15:10 - 16:30 (starts 15:10 sharp)
Location Room -101 in Building 58

Abstract Kolchin's differential algebraic geometry provides a geometric approach to algebraic differential equations, in a manner analogous to what usual algebraic geometry does for polynomial equations. In this theory, the role of fields is played by differential fields, i.e., fields equipped with a derivation. Similarly, one could consider difference fields (fields equipped with an automorphism) and difference equations, and obtain a geometric theory of "difference varieties", as well as other operators. In the talk I will present a formalism that allows treating geometrically a large class of such fields with operators, in a uniform manner. In particular, it provides a uniform construction that generalises the construction of tangent spaces (or arc spaces) in the differential case. If time permits, I will indicate how this point of view provides an easy description of the category of representations of linear groups in this context.

(updated 3 Nov 2016)