Department of Mathematics, BGU

Algebraic Geometry and Number Theory

On *Wednesday, December ,28 2016*

At *15:10 − 16:30*

In *Math 101-*

Ehud Meir (Hamburg)

will talk about

Hopf algebras via geometric invariant theory

Abstract:

Ben Gurion University – Mathematics

Algebraic Geometry and Number Theory Seminar

Speaker   **Ehud Meir (Hamburg)**

Title   **Hopf algebras via geometric invariant theory**

Date   Wednesday, 28 December 2016

Time   15:10 – 16:30 (starts 15:10 sharp)

Location   Room -101 in Building 58

Abstract

Hopf algebras are an algebraic structure which appears in many areas of mathematics (such as representation theory, algebraic topology and operator algebras, to name a few).

They can be considered as a generalization of a group to the non-commutative geometry setting.
Their classification, however, even in group theoretical terms, is at present out of our reach.

In this talk I will describe an alternative approach for studying Hopf algebras, by using tools from geometric invariant theory.

By applying some classical results, I will show why the study of finite dimensional semisimple Hopf algebras can be reduced into studying some scalar invariants.

I will then describe how these invariants relate to questions in Hopf algebra theory, and will describe an application to Hopf orders.

If time permits, I will also describe other applications of geometric invariant theory in this direction.

(updated 1 Dec 2016)