Department of Mathematics, BGU

Colloquium

On *Tuesday, June ,16 2015*

At *14:30 – 15:30*

In *Math 101-*

Antoine Ducros (Paris (6

will talk about

Geometry over p-adic fields: Berkovich's approach

Abstract: p-adic fields have been introduced by number theorists for arithmetic purposes. Such a field is complete with respect to an absolute value with some strange behaviour: for example, every closed ball with positive radius is open, and every point of such a ball is a center. Because of those properties, to develop a relevant geometric theory over p-adic fields is non-trivial: one can not naively mimic what is done in real or complex geometry, and one has to use a more subtle approach. In this talk we will present that of Berkovich. His main idea consists in "adding a lot of points to naive p-adic spaces" in order to get good topological properties, like local compactness or local path-connectedness. After having given the basic definitions, we will investigate some signfiicant examples, and give a survey of some of the (numerous) applications of the theory has had in various areas (spectral theory, dynamics, algebraic and arithmetic geometry...).