## *ΔΙΑΛΕΞΗ ΓΕΝΙΚΟΥ ΣΕΜΙΝΑΡΙΟΥ*

*Πέμπτη, 22 Δεκεμβρίου 2016,*
*ώρα 14:00, Αίθουσα Γ31*

*Ομιλητής: Ευγένιος* Κακαριάδης*, Newcastle University, UK*

**Τίτλος:** Operator algebras associated with languages II

**Abstract:** A factorial language is characterised by a set of allowable words on d symbols. In a sense it encodes the allowable operations an automaton performs.
In the late 1990's Matsumoto constructed a C*-algebra associated to a language, deriving initially his motivation from the work of Cuntz-Krieger. These C*-algebras were then studied in depth in a series of papers. In 2009 Shalit-Solel discovered a relation with operator algebras related to homogeneous ideals. In particular a factorial language corresponds to a monomial ideal under this prism.

In a recent work with Shalit we take a closer look at these cases and study them in terms of classification programs on nonselfadjoint operator algebras. We investigate two nonselfadjoint operator algebras from one SFT and show that they completely classify the SFT:
　　　(a) up to the same allowable words, and
　　　(b) up to local conjugacy of the quantized dynamics.

In this talk we will present how local conjugacy is a complete isomorphic invariant for the algebras. In the case of sofic languages our findings translate to colour-blind graph isomorphisms of the related follower set graphs.
The follower set graph construction is useful in particular as a starting point for producing
Fischer covers of languages. We will thus also show how colour-blind isomorphisms respect irreducibility and induce similar isomorphisms on the Fischer covers.

This is part of a joint work with Barrett and Shalit.