

**Έκτη Διάλεξη:** Παρασκευή 12 Ιουνίου, ώρα 17:00

**Ομιλητής:** Vern Paulsen, University of Waterloo, Canada

**Τίτλος:** From Synchronous Games to the Connes Embedding Problem

**Abstract:** In the paper  $MIP^*=RE$ , Ji, Natarajan, Vidick, Wright and Yuen, prove that Connes' Embedding Problem has a negative answer. Their proof actually shows that Tsirelson's conjecture is false, which by work of Junge et al, Fritz and Ozawa has been shown to be equivalent to Kirchberg's conjecture, which by work of Kirchberg is equivalent to Connes' Embedding Conjecture. The  $MIP^*=RE$  proof constructs a certain type of game known as a synchronous game.

In this talk we will outline how our work provides a more direct route to go from properties of synchronous games to a negation of Connes Embedding.

The remaining, major challenge, is to find a more explicit description of the game constructed in  $MIP^*=RE$ .

This is based on 4 papers, including joint work with S. Severini, D. Stahlke, I. Todorov, A. Winter, K. Dykema, W. Helton, K. Meyer, M. Satriano, and S.-J. Kim, C. Schafhauser.