

UNIVERSITY OF CRETE
DEPARTMENTS OF MATHEMATICS AND APPLIED MATHEMATICS

ANALYSIS SEMINAR

10:15pm, Wednesday, 14 Feb 2018
Room A-303

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The Sarnak conjecture for ergodic weights

The Möbius function is a multiplicative function which encodes important information related to distributional properties of the prime numbers. It is widely believed that its non-zero values fluctuate between plus and minus one in a random way. One conjecture in this direction, formulated by Sarnak, states that the Möbius function does not correlate with any bounded deterministic sequence. We are going to prove this conjecture for all ergodic deterministic sequences. A key advantage in our approach is that it makes a connection with some deep results in ergodic theory which we use in order to study structural properties of measure preserving systems naturally associated with the Möbius function. This is joint work with Bernard Host.