

# **abstract**

SHORT TALKS BY POSTDOCTORAL MEMBERS

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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I will discuss the relation between:

- (a) the Weak Regularity Lemma of Frieze and Kannan, a result in graph theory,
- (b) the "Dense Model Theorem" of Green, Tao and Ziegler, a result in additive combinatorics, that helps transfer results about dense sets of integers to results about the primes, and
- (c) the Impagliazzo Hard-Core Set lemma, a result from computational complexity theory.

I will state a general result from which all three follow easily. Also, the proof techniques for each of the above results can be used to prove the general result. If time permits, I will give the sketch of a proof using the technique of ``boosting" from machine learning, which gives the best quantitative parameters.

Based on joint work with Omer Reingold, Luca Trevisan and Salil Vadhan.