TEL AVIV UNIVERSITY אוניברסיטת תל-אביב

The next *What-Is Seminar* talk will be held on

Wednesday, 18/4/12, 11:30—13:00
in **Schreiber 210**

The speaker is

Uri Grupel (TAU)

What is Measure Concentration?

Upon request, the lecture will be given in English.
There will be some snacks and drinks.

You are all invited!

Abstract

In this talk I will present some phenomena occuring in high dimension, namely, in $\mathbb{R}^n$ when n tends to infinity. We will talk briefly about measure concentration in general and focus on two of its beautiful manifestations. The first is Sudakov's theorem, which gives us a new criterion for a random vector to have Gaussian marginals (namely, that for a random vector X and a unit vector θ, the scalar product $\langle X, \theta \rangle$ is "almost" Gaussian). The second is the Central Limit Theorem for convex sets (following B. Klartag's proof), which states that a random vector X distributed uniformly on a convex set K has "almost" Gaussian marginals. The proof relies on Sudakov's theorem.

We will see a sketch of the proofs of both theorems. No prior knowledge is needed (though some steps will be left without proof).

For more information visit: http://www.math.tau.ac.il/∼pelegm/whatis