# "Group Theory International"
# Online Seminar

## Igor Mineyev

**(University of Illinois at Urbana-Champaign)**

## ''*Leafages: How to prove the Hanna Neumann Conjecture*''

**Thursday, Sep 22, noon (New York Time).**

### Abstract:

The Hanna Neumann Conjecture from 1956-1957 asserts a specific upper bound on the rank of the intersection of two finitely generated subgroups in a free group. Walter Neumann proposed a strengthened version of the Hanna Neumann Conjecture (SHNC) in 1989-1990. We will present a proof of SHNC, and more general results. The proof can be stated either in terms of groups and graphs, or in analytic terms using Hilbert modules and the Murray-von Neumann dimension. We will discuss trees, flowers, forests, gardens, and leafages. The analytic point of view allows for generalizations of SHNC from graphs to complexes.

Next presentation: **Oct 6, 2011.** Sarah Rees *(University of Newcastle) TBA*

**Algebraic Cryptography Center**