

# Graduate Seminar

Valentin Gruzdev,  
Memorial University

Thursday, January 23, 2014  
1:00 p.m., HH-3017

*Relative growth rate of subgroups of free groups*

**Abstract:**

The notion of amenable groups was introduced by John von Neumann in 1929 in his investigation of the Banach-Tarski paradox. Since then amenable groups became a subject of interest to many mathematicians including Rostislav Grigorchuk, who in 1978 obtained a characterization of amenability of groups by the means of relative growth rate of subgroups of free groups. In this talk we will have a look at some of the results obtained by Rostislav Grigorchuk and their connection to speaker's Master's thesis.