"Group Theory International" Online Seminar

Volodymyr Nekrashevych

(Texas A&M University)

"Groups associated with polynomial iterations"

Thursday, Apr 12, noon (New York Time)

Abstract:

Let f_n be a sequence of complex polynomials for which there exists a finite set P such that the set of critical values of the composition $F_n = f_1 \circ \cdots \circ f_n$ is contained in P for every n. Then the fundamental group of $\mathbb{C} \setminus P$ acts on the tree of preimages $\bigcup F_n^{-1}(t)$ of the basepoint by monodromy action. We get in this way an interesting uncountable class of groups of automorphisms of rooted trees. I will give a purely combinatorial characterization of these groups, and a general method of constructing them using sequences of finite automata. Some examples and known properties of these groups will be discussed.

Next presentation: **Apr 26, 2012.** *Rostislav Grigorchuk (Texas A&M University)*

Algebraic Cryptography Center