NEW YORK CITY COLLEGE OF TECHNOLOGY
The Senior College of Technology
of The City University of New York

Joint Mathematics and Physics Colloquium

Self-Similar Groups - An Introduction

Prof. Benjamin Steinberg
The City College of New York

Department of Mathematics
Thursday March 26, 2015
12:45 p.m.
Namm 703

Self-similar groups are groups of automorphisms of a regular rooted-tree that reflect the self-symmetry, or fractal nature, of the tree. They are deeply connected to the theory of finite state machines from Computer Science. Self-similar groups are easy to write down and ``play with'', yet at the same time form an extremely deep and versatile family of group. They have also been used to solve a number of outstanding problems in mathematics such as the Burnside problem, Milnor's problem on growth, Atiyah's problem on L^2-Betti numbers and the Hubbard twisted rabbit problem in Complex Dynamics.

This talk gives a low-level introduction to these groups and their basic properties, including how to construct them and how to work with them. The talk will be aimed to an audience familiar with basic notions of group theory but who are not experts. History, developments and future directions will be stressed.

Light refreshments will be served
Image courtesy of Suvro Datta at FreeDigitalPhotos.net