Algebra/Topology Seminar

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Toric Arrangements:
Combinatorial Models and the Fundamental Group

Tuesday, September 27, 2011
1:15 p.m. in ES-146
(tea & coffee at 12:45 a.m. in ES-152)

Abstract. The study of arrangements of subtori in the complex torus T is a recently thriving topic. It has some structural similarities with the theory of hyperplane arrangements, yet it bears its own peculiarities.

Recall that the Salvetti Complex is a combinatorial model of the complement of a complexified arrangement of hyperplanes. We take Salvetti's work as a stepping stone to develop a combinatorial model for the complement $M := T \setminus A$, where A is any toric arrangement. More precisely, we prove that M is homotopy equivalent to the nerve of a combinatorially defined acyclic category. Then we find a presentation of the fundamental group of M.

This is joint work with Giacomo D'Antonio, Bremen University.