1057-13-388 **Sonja Petrović*** (petrovic@math.uic.edu), UIC - dept of MSCS, 322 Science and Engineering Offices (M/C 249), 851 S. Morgan Street, Chicago, IL 60611, and **Tristram Bogart**.

Combinatorics of multihomogeneous toric ideals. Preliminary report.

Multihomogeneous toric ideals arise frequently in applications (statistics), and questions about their geometric and combinatorial properties pose both computational and theoretical challenges. One of the positive constructive results in this direction is from joint work with Rinaldo and Fienberg: for a particular class of toric varieties, the part of the toric ideal that is "statistically relevant" can be obtained by homogenizing generators suitably. The motivation for this result came from the Graver basis construction for varieties of minimal degree, whose classification is purely combinatorial.

In this talk I will survey some of the previous work on Graver bases, as well as current work with Tristram Bogart which, with the help of some computations provided by Raymond Hemmecke, solves a universal Groebner basis conjecture for rational normal scrolls. (Received January 26, 2010)