Meeting: 1089, Boulder, Colorado, DELOERA, Invited Address

1089-90-2 **Jesus A. De Loera*** (deloera@math.ucdavis.edu), Dept. of Mathematics, University of California, Davis, CA 95616. *Recent advances in the theory of linear programming.* Preliminary report.

Linear programming is undeniably a central tool of applied mathematics and a source of many fascinating mathematical problems. In this talk I will present several advances from the past 5 years in the theory of linear optimization. These results include new results on the complexity of the simplex method, the structure of central paths of interior point methods, and about the geometry of some less well-known iterative techniques. One interesting feature of these advances is that they connect this very applied algorithmic field with algebraic geometry and combinatorial topology.

I will try to summarize work by many authors and will include results that are my own joint work with subsets of the following people A. Basu, M. Junod, S. Klee, B. Sturmfels, and C. Vinzant. (Received February 19, 2013)