1083-13-109   **Trevor E McGuire*** (`tmcgui1@lsu.edu`), 1949 Oleander St E, Baton Rouge, LA 70806. *Free Resolutions of Ideals with Monomial and Binomial Generators.*

Free resolutions of $S = k[x_1, ..., x_n]$-modules are widely studied. In the field of combinatorial commutative algebra, resolutions of S-ideals generated only by monomials or only by binomials have been given a combinatorial interpretation in terms of simplicial complexes. In fact, simple algorithms have been given that generate these free resolutions. In this talk, we will describe a combinatorial algorithm that can generate a free resolution of an S-ideal that is generated by both monomial and binomial terms. This algorithm will use the newly defined Lattice Translated Buchberger Graph, which is a generalization of the Buchberger graph one can use to resolve a monomial S-ideal. (Received August 23, 2012)