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Laura Felicia Matusevich* (laura@math.tamu.edu), Department of Mathematics, Texas A&M University, Mailstop 3368, College Station, TX 77843-3368. *Decompositions of binomial ideals.*

A binomial is a polynomial (in several commuting variables) with at most two terms. Binomial ideals, ideals generated by binomials, turn out to have a very rich combinatorial structure. I will illustrate this by showing different ways of decomposing a binomial ideal as an intersection of (simpler) binomial ideals. How we define “simpler” is very important: the more combinatorial requirements we ask for, the more challenging the computation becomes. The surprising fact that meaningful and effectively computable binomial decompositions exist is due to Eisenbud and Sturmfels. I will recall their results, and then survey the combinatorial progress that has occurred in the last ten years. (Received February 17, 2016)