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**Lucas J. Rusnak\*** (rusnak@math.binghamton.edu), Department of Mathematical Sciences, Binghamton University, Binghamton, NY 13902. *Oriented Incidence and a Generalization of Hypergraphs.*

This talk will introduce an incidence-based orientation scheme for hypergraphs which combinatorially model  $\{0, +1, -1\}$ -matrices. Topics discussed will include the introduction of new hypergraphic structures and operations, the decomposition of oriented hypergraphs into three families of varying degrees of "balance", and their relevance to the classification of the minimal column dependencies of  $\{0, +1, -1\}$ -matrices. (Received September 21, 2009)