## DISCRETE '08: Symposium on Prospects in the Physics of Discrete Symmetries



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## **Finite Unified Theories**

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Finite Unified Theories are N=1 supersymmetric Grand Unified Theories, which can be made all-loop finite, both in the dimensionless (gauge and Yukawa couplings) and dimensionful (soft supersymmetry breaking terms) sectors. This remarkable property, is based on the reduction of couplings at the quantum level. We plan first to present the scheme of reduction of couplings, then the conditions for finiteness at one and two-loop in supersymmetric theories and finally the theorem which permits the construction of all-loop finite theories. We will conclude with a short presentation of the successes in constructing realistic all-loop finite models as well as in predicting the Higgs mass within these models.

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