CU Physics Department Colloquium

Monday, December 4, 2006 4:10 pm 428 Pupin Hall

“Supersymmetric gauge theory: an overview ”

Of the many suggestions for new physics to look for in upcoming collider experiments, by far the most widely accepted is supersymmetry, because of its potential for solving the theoretical problems of the Standard Model, and because of its links to unified theories such as superstring theory.

Supersymmetry is also a theoretical tool, which over the last ten years has led to many dramatic advances, including general techniques for doing nonperturbative and even exact computations. These developments led to the first analytic demonstrations of confinement in four dimensional gauge theory, and many unexpected discoveries such as the existence of non-trivial quantum critical points in four dimensions. These ideas and techniques play a central role in our modern understanding of string theory, and in proposals for how it might make contact with experiment.

We give an introduction to these ideas and discoveries for a general physics audience.

Prof. Michael Douglas, Rutgers University