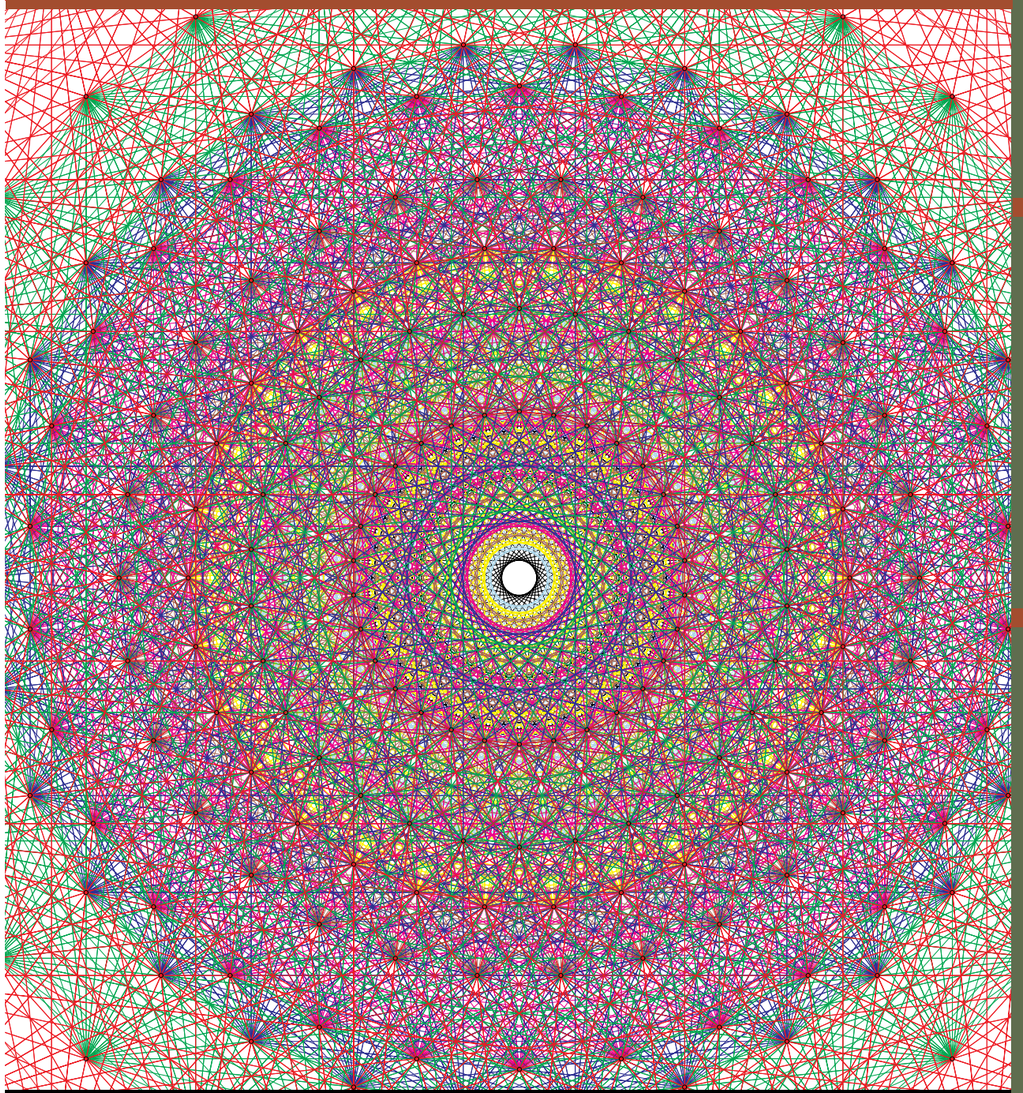
DEPARTMENT OF MATHEMATICS
INSTITUTE FOR FUNDAMENTAL THEORY
JOINT COLLOQUIUM



Monday, March 17, 2008
4 pm, Little Hall 121
Refreshments will be served after the talk in Little 339

On some of the Mathematics in Garrett Lisi's "E_8 Theory of Everything"

presented by

Professor Bertram Kostant

Massachusetts Institute of Technology

Opening Remarks by Professor Pierre Ramond, Director, Institute for Fundamental Theory

ABSTRACT: A physicist, Garrett Lisi, has published a highly controversial, but fascinating, paper purporting to go beyond the standard model in that it unifies all four forces of nature by using as gauge group the exceptional Lie group E_8. My talk, strictly mathematical, will be about an elaboration of the mathematics of E_8 which Lisi relies on to construct his theory.

ABOUT THE SPEAKER: Professor Bertram Kostant is a world authority in representation theory. His fundamental research spans several areas such as Lie groups and Lie algebras, homogeneous spaces, differential geometry, and mathematical physics. He is known for defining a quantization procedure now called pre-quantization, and for developing a complete theory of quantum Toda lattices in which his quantization program can be achieved. After receiving his PhD from Chicago in 1954 he was on the faculty at Berkeley before moving to MIT in 1962 where he been ever since. He has received numerous honors and recognitions in his long illustrious career. He is a Member of the National Academy of Sciences and the American Academy of Arts and Sciences. In 1997 he received an Honorary Doctorate from Purdue where he did his undergraduate studies.

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