WORKSHOP ON ALGEBRAIC GEOMETRY AND PHYSICS

K-THEORY, DERIVED CATEGORIES AND STRINGS

Department of Mathematics, University of Genova, June 18-21, 2002

Supported by:

University of Genova
International School for Advanced Studies (Trieste)
National Research Projects "Geometry of Integrable Systems" and "Geometry of Algebraic Varieties"
TMR Network ERB FMRX CT-97-0107 "K-theory and algebraic groups"

Preliminary Programme

Tuesday, June 18

9:00 Registration
9:30 Opening
9:40 H. Gillet, Introduction to K-theory (I)
10:30 Coffee break
11:00 P. Seidel, Some (hopefully) useful homological algebra (I)
11:50 M. Douglas, D-Branes on Calabi-Yau (I)
12:40 Lunch
14:30 T. Pantev, Dualities and D-branes (I)
15:20 R. Donagi,The gerbe of Higgs bundles
16:10 Coffee break
16:30 A. Căldăraru, Stable singularities may not be stable, after all

Wednesday, June 19

9:20 H. Gillet, Introduction to K-theory (II)
10:10 P. Seidel, Some (hopefully) useful homological algebra (II)
11:00 Coffee break
11:20 M. Douglas, D-Branes on Calabi-Yau (II)
12:10 R. Szabo, D-branes, tachyons and K-homology
13:00 Lunch
14:30 T. Pantev, Dualities and D-branes (II)
15:20 A. Degeratu, Intersection products in the cohomology ring of a crepant resolution of a Calabi-Yau orbifold
15:50 Coffee break

16:10 M. Rothstein, The Fourier-Mukai transform and equations of KP-type in several variables

16:40 P. Aschieri, Noncommutative geometry of twisted spheres

Thursday, June 20

9:20 H. Gillet, Introduction to K-theory (III)

10:10 P. Seidel, Some (hopefully) useful homological algebra (III)

11:00 Coffee break

11:20 M. Douglas, D-Branes on Calabi-Yau (III)

12:10 R. Horja, Derived categories and mirror symmetry

13:00 Lunch

14:30 T. Pantev, Dualities and D-branes (III)

15:20 R. Kaufmann, Second quantized Frobenius algebras

15:50 J. Isidro, Nonperturbative vacua in M-theory over torus-fibred Calabi-Yau

20:00 Workshop Dinner

Friday, June 21

9:30 G. Vezzosi, Homotopy algebraic geometry

10:20 A. Tomasiello, Superpotentials for branes in Calabi-Yau manifolds

11:10 Coffee break

11:30 B. Szendrői, Enhanced gauge symmetry and generalized braid group actions

12:00 S. Giusto, Contact terms and topological B-strings

12:30 P. Newstead, Deformations of Picard bundles

13:00 Lunch

14:30 R. Minasian, Kaluza-Klein bundles and manifolds of exceptional holonomy

15:20 I. Burban, Derived categories of coherent sheaves on degenerations of elliptic curves

15:50 Coffee break

16:10 K. Oh, Geometric transitions

16:40 M. Schlichenmaier, Berezin-Toeplitz quantization of certain moduli spaces