SCUOLA
NORMALE
SUPERIORE
PISA

SEMINARIO DI MATEMATICA

lunedì 3 Maggio 2010
ore 15.00

Scuola Normale Superiore
Pisa
(Aula Tonelli)

Brent Doran
ETH Zurigo

Terrà un seminario dal titolo:

"A little taste of arithmetic geometric topology"

Abstract:
Topologists developed powerful tools in the twentieth century with a focus on the theory of manifolds. However, classical questions long solved in topology, via fairly sophisticated techniques, have analogs which are still open in algebraic geometry -- which, despite motivating dreams and conjectures, lacks the precise analogs of those techniques. To cite two simple concrete instances: (1) the cancellation problem, i.e., if X x A^1 = A^n, then what is X, and (2) a theory of vector bundles via classifying spaces, both have clean, complete topological stories. We explore the rough question of what issues in algebraic geometry are essentially topological, versus those which require hard geometry and arithmetic, by illustrating some instances where A^1-homotopic thinking (or ``motivic homotopy") clarifies matters. As an application, we discuss the question "what is a sphere over Z", in a way that Heinz Hopf would likely have appreciated.

Tutti gli interessati sono invitati a partecipare.

Classe di Scienze

Piazza dei Cavalieri, 7
56126 Pisa-Italy
tel: +39 050 509111
fax: +39 050 563513

28/04/2010