

POMERIGGIO DI GEOMETRIA

DIPARTIMENTO DI MATEMATICA

UNIVERSITÀ DEGLI STUDI DI TORINO

GIOVEDÌ 8 OTTOBRE 2009

AULA C

PROGRAMMA

14.30

Eduardo Esteves (IMPA, Rio de Janeiro) "**Abel maps**"

Abstract: Abel maps have been at the center of the study of compact Riemann surfaces since its roots. We will sketch the history of Abel maps from Abel, passing through Riemann, up to recent progress in extending the theory to degenerations of Riemann surfaces.

15.30

Diego Conti (Università Bicocca, Milano), "**Half-flat structures on nilmanifolds**"

Abstract: Consideration of hypersurfaces in manifolds with holonomy G_2 motivates the study of a certain class of $SU(3)$ -structures on six-manifolds, called half-flat. Several explicit examples and classification results for half-flat structures are known, most of them concerning left-invariant structures on a Lie group. In the context of solvable Lie groups, I will introduce a double complex whose cohomology obstructs the existence of an invariant half-flat structure. I will derive a classification of nilpotent Lie groups, or nilmanifolds, that carry an invariant half-flat structure.

16.30

Paul-Andi Nagy (University of Auckland), "**Torsion and curvature in almost Kaehler geometry**"

Abstract: We study almost Kähler manifolds whose Riemann curvature tensor is subject to the second or the third curvature condition of Gray (AK2 respectively AK3 for short). This conditions are interpreted in terms of the torsion of the first canonical Hermitian connection and shown to forces the torsion of the latter to be parallel in directions orthogonal to the Kaehler nullity of the almost complex structure. The first main result is that AK2-manifolds must have parallel intrinsic torsion tensor. In the case of parallel torsion, the Einstein condition and the reducibility of the canonical Hermitian connection is studied. Secondly we show that AK3-manifolds are obtained up to local Riemannian products from AK2-structures and a class of toric Kähler manifolds.

Tutti gli interessati sono cordialmente invitati a partecipare.

Anna Fino

Federica Galluzzi