SEMINARIO MATEMATICA

giovedì 17 luglio 2014
ore **10:00**

Scuola Normale Superiore
Pisa
Aula Mancini

Marco Abate
Dipartimento di Matematica, Pisa

Terrà un seminario dal titolo:

"Geodesic flow and index theorems for meromorphic connections"

Abstract:
The study of meromorphic connections on Riemann surfaces is a classical topic, related for instance to the 21st Hilbert problem.
In this talk I shall introduce a novel point of view, with unexpected analytic, geometric and dynamical applications. More precisely, I shall show how to associate to holomorphic maps having a positive-dimensional fixed point set a meromorphic connection along a foliation in Riemann surfaces, that can be used to prove several index theorems generalizing and extending both the classical holomorphic Lefschetz index theorem and the Baum-Bott and Camacho-Sad index theorems for foliations. Furthermore, I shall describe how to study with analytical and geometrical techniques the geodesic flow associated to a meromorphic connection, with the aim of describing the asymptotic behavior of the real geodesic defined by the connection. Finally, I shall describe a few applications of these results to the study of the dynamics of germs tangent to the identity, to the study of the flow of homogeneous vector fields, and to the study of meromorphic self-maps of the complex projective space.

Tutti gli interessati sono invitati a partecipare.

Classe di Scienze