



Mês de: **Julho 2012**

SEMINÁRIO DE GEOMETRIA

Dia 20 de Julho (sexta-feira), às 15h30, na Sala B2-01

“Riemannian Geometry and Linear Algebra”

Jost Eschenburg

(Universidade de Augsburg)

Abstract:

Bernhard Riemann in his famous inauguration lecture said about higher-dimensional manifolds: "More frequent occasions for the creation and development of these notions occur only in higher mathematics." Probably he was thinking at certain algebraic manifolds, like projective spaces and Grassmannians. These belong to an interesting subclass, symmetric spaces, which are closely related to the most basic "higher mathematics", to linear algebra.

We show three instances where this relationship becomes important:

1. Normal forms of certain matrices and polarity,
2. Bott periodicity,
3. Exceptional spaces and the octonions

The linear algebra happens over the real division algebras, the real, complex, quaternionic and octonionic numbers. The octonions will appear at all three instances; their relation to symmetric spaces is least understood since a "linear algebra" over the octonions does not (yet) exist. This is ongoing work.

Local:
COMPLEXO INTERDISCIPLINAR
Av. Prof. Gama Pinto, 2
1649-003 Lisboa

