Faculdadede Ciências da Universidade de Lisboa
cmafcio@fc.ul.pt Tel. (+351) 21 750 00 27

SEMINÁRIO DE GEOMETRIA

Dia 29 Jan (terça-feira), às 13h30, sala 6.2.38

Harmonic Surfaces in the Cayley Plane

Rui Pacheco
(CMA-UBI, Universidade da Beira Interior)

Abstract:

ABSTRACT. In this talk we consider the twistor theory of nilconformal harmonic maps from a Riemann surface into the Cayley plane $\mathbb{O}P^2 \cong F_4/Spin(9)$. By exhibiting this symmetric space as a submanifold of the Grassmannian of 10-dimensional subspaces of the fundamental representation of F_4, techniques and constructions similar to those used in earlier works on twistor constructions of nilconformal harmonic maps into classical Grassmannians can also be applied in the Cayley plane case. The originality of our approach lies on the use of the classification of Nilpotent orbits in Lie algebras as described by D. Djoković. As a corollary of our results, we will show that, when the domain is a flat torus, finite uniton number and finite type cover all harmonic maps into $\mathbb{O}P^2$.

This is joint work in progress with N. Correia and M. Svensson partially supported by FCT, through the project UID/MAT/00212/2013.

Seminário financiado por Fundos Nacionais através da FCT – Fundação para a Ciência e a Tecnologia no âmbito do projeto UID/MAT/04561/2019