

# SEMINÁRIO DE FÍSICA MATEMÁTICA E GEOMETRIA

**Dia 15 de Outubro (segunda-feira), às 11h00, sala 6.2.33**

## Quantisation of isomonodromy systems

**Gabriele Rembado**

(ETH, Zurique)

**Abstract:** Given a meromorphic connection on a vector bundle over a Riemann surface, one can consider deformations of its coefficients that do not vary the (extended) monodromy data of the connection. This defines isomonodromic deformations, which in turn constitute the leaves of a nonlinear/Ehresmann connection on a symplectic fibration of moduli spaces of meromorphic connections. In some cases one can encode this isomonodromy connection into time-dependent Hamiltonians such as the Schlesinger Hamiltonians, which control isomonodromic deformations of connections with simple poles on the Riemann sphere.

It has been shown by Reshetikhin and Harnad that a natural deformation quantisation of the Schlesinger system yields the Knizhnik-Zamolodchikov connection in Conformal Field Theory, and in this talk we will explain how to generalise this quantisation procedure to a class of connections with higher order poles on the sphere. The result is a new family of flat (quantum) connections generalising KZ.

*Financiado pela FCT no âmbito dos projetos IF/00069/2015 e PTDC/MAT-PUR/30234/2017*