Centro de **Matemática**
Universidade do Porto

Dynamical Systems Seminar

Date. June 21, 14h30

Place. Room M031

Speaker. Silvius Klein[1] (CMAF, University of Lisbon)

Title. Continuity of the Lyapunov exponents for quasi-periodic co-cycles

Abstract. Consider the Banach manifold of real analytic linear co-cycles with values in the general linear group of any dimension and base dynamics given by a Diophantine translation on the circle. We prove a precise higher dimensional Avalanche Principle and use it in an inductive scheme to show that the Lyapunov spectrum blocks associated to a gap pattern in the Lyapunov spectrum of such a co-cycle are locally Holder continuous. Moreover, we show that all Lyapunov exponents are continuous everywhere in this Banach manifold, irrespective of any gap pattern in their spectrum. These results also hold for Diophantine translations on higher dimensional tori, albeit with a loss in the modulus of continuity of the Lyapunov spectrum blocks.

This is joint work with Pedro Duarte.

Remark. Coffee with the speaker is served after the talk (15h30 - 16h00)

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[1]Silvius Klein is currently a Postdoctoral researcher at CMAF, University of Lisbon. He obtained the Ph.D degree in *Mathematics* at University of California (USA) under the supervision of Prof. Cristoph Thiele, in 2005. Silvius is particularly interested in spectral properties of ergodic lattice Schrodinger operators and Lyapunov exponents of linear co-cycles. His homepage is http://www.sklein.org.