CMUP
Centro de **Matemática**
Universidade do Porto

Dynamical Systems Seminar

Date. October 19, 14h30

Place. Room M031

Speaker. Fernando Pestana da Costa[1] (Universidade Aberta & Centro de Análise Matemática, Geometria e Sistemas Dinâmicos, IST)

Title. Self-similar behaviour in coagulation equations: some results and open problems

Abstract. Coagulation equations are models of cluster growth based on the mass action law of chemical kinetics. They occur very often in the scientific literature (in Chemistry, Colloidal Science, Physics, Astrophysics, etc.) and its mathematical study has seen remarkable advances in the last quarter century. One of the current active research topics in this area is the investigation of self-similar behaviour of solutions. In this talk I will provide a gentle introduction to these problems, presenting some of the known results and current open problems.

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

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[1]Fernando Pestana da Costa is associate professor with aggregation in Mathematics at Universidade Aberta. He obtained his M.Sc. degree in Applied Mathematics at IST (Instituto Superior Técnico, Lisbon), in 1989, and his Ph.D. degree in Mathematics at Heriot-Watt University (Edinburgh, UK), in 1993. Fernando is vice president of SPM (Sociedade Portuguesa de Matemática). He is also member of the editorial board of the *International Journal of Biomathematics and Biostatistics*. His main scientific interests are differential equations and dynamical systems, specially coagulation-fragmentation differential equations and related systems. Fernando's homepage is http://www.univ-ab.pt/∼fcosta/