

# SEMINÁRIO I - PDMAEG

## PROGRAMA 1º Semestre 2017/2018

### **23 Out** - Sala Staples (Quelhas)

17h	Esmeralda Ramalho (CEMAPRE)	Are ill-informed residential water consumers less price-responsive?
17h45	Paulo Brito (UECE)	Growth-inequality nexus in a simple capital accumulation model

### **13 Nov** - Sala Staples (Quelhas)

17h	Joana Pais (UECE)	TBA
17h45	Filipe Oliveira (CEMAPRE)	Nonlinear Dispersive Equations

### **4 Dez** - Sala Staples (Quelhas)

17h	Tanya Araújo (UECE)	TBA
17h45	Agnieszka Bergel (CEMAPRE)	TBA

Paulo Brito

Title: Growth-inequality nexus in a simple capital accumulation model

Abstract: In this paper we address the joint distribution and growth processes by combining the inherent conservative property of

distributions, highlighted by the mean-field game literature, and simple capital accumulation dynamics of benchmark economic growth theory. Given an initial unequal distribution of capital, and assuming a deterministic setting, we show that there are three main types of evolutions: asymptotic equality but no long run growth, asymptotic growth and a stationary distribution featuring inequality, or growth together with increasing inequality. The last type of evolution is Pareto optimal if capital accumulation depends linearly on the capital stock. Introducing a multiplicative random capital redistribution process, we show that we always get an increase in inequality although it can occur together with growth (if noise is relatively low) or within a non-growth context (when noise is very high).

Filipe Oliveira

Title: Nonlinear Dispersive Equations

Summary: In this introductory seminar, we will present the main mathematical features of nonlinear dispersive equations and its applications to the description of several natural phenomena. Special attention will be given to the Schrödinger Equation and its central role in Quantum Mechanics as well as in wave propagation in dispersive media.