# Centro de **Matemática**
## Universidade do Porto

# Geometry and Topology seminar

**Date.** April 17th, 15h30
**Place.** Room 0.06

**Speaker.** Carlos Rito (CMUP)

**Title.** Some surfaces with canonical map of degree 16.

**Abstract.** It is known since Beauville (1979) that if the canonical image $\phi(S)$ of a surface of general type $S$ is a surface, then the degree $d$ of the canonical map $\phi$ satisfies $d \leq 36 - 9q$, where $q$ is the irregularity of $S$. Beauville has constructed families of examples with holomorphic Euler characteristic $\chi$ arbitrarily large for $d \leq 8$, but for $d \geq 9$ only three examples are known: $d = K^2 = 9, q = 0$ (Tan), $d = K^2 = 12, q = 0$ (Rito) and $d = K^2 = 16, q = 0$ (Persson), where $K$ is a canonical divisor of $S$.

In this talk I will describe the construction of an example with $d = K^2 = 16, q = \chi = 2$ (the boundary case for surfaces with $K^2 = 8\chi, q = 2$) and some examples with $d = 16, K^2 > 16, q = 0$. If time permits I will also explain the example with $d = 12$.