



Centro de Matemática  
Universidade do Porto

## Seminar on Semigroups, Automata and Languages

### Alternating and symmetric groups with Eulerian generating graph

Claude Marion  
(FCUP-CMUP)

**Abstract:** Given a finite group  $G$ , the generating graph  $\Gamma(G)$  of  $G$  has as vertices the (nontrivial) elements of  $G$  and two vertices are adjacent if and only if they are distinct and generate  $G$  as group elements.

In this talk we investigate properties about the degrees of the vertices of  $\Gamma(G)$  when  $G$  is an alternating or a symmetric of degree  $n$ . In particular, we illustrate that  $\Gamma(G)$  is Eulerian if and only if  $n > 3$  and  $n$  and  $n - 1$  are not equal to a prime number congruent to 3 modulo 4.

We will also mention a couple of open problems. (Joint work with Andrea Lucchini.)

**Date:** Friday, 27 May 2022, 14:30

**Place:** Online Zoom meeting



Com o apoio do projeto UIDB/00144/2020