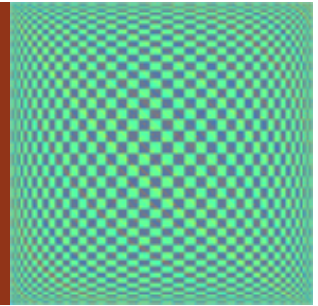




Centro de Matemática  
Universidade do Porto



# Seminar on Semigroups, Automata and Languages

## Still counting numerical semigroups

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**Abstract:** A numerical semigroup  $S$  is a cofinite submonoid of the nonnegative integers under addition. The biggest integer not belonging to  $S$  is the Frobenius number of  $S$ ; the number of positive integers not in  $S$  is the genus of  $S$ . For a fixed integer  $k$ , denote by  $f_k$  (respectively  $g_k$ ) the number of numerical semigroups with Frobenius number  $k$  (respectively genus  $k$ ). The asymptotic behavior of the integer sequences  $(f_k)$  and  $(g_k)$  has attracted the attention of many researchers. Among other interesting results in the literature, one finds that, asymptotically,  $(g_k)$  exhibits a Fibonacci like behavior. But, to the best of my knowledge, no one knows whether this sequence is monotonic. In the present seminar, we intend to survey some known results related to the mentioned sequences, refer to a few experimental results and state some problems the experiments suggest.

**Date:** Friday, 8 October 2021, 14:30  
**Place:** Online Zoom meeting



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