

# THE RANDOM GRAPH

*Peter J. Cameron*

University of St Andrews;  
Queen Mary University of London (Emeritus).  
e-mail: `pjc20@st-andrews.ac.uk`

**Resumo:** If you choose a random finite graph (choosing edges by tossing a coin), then every graph can occur with small non-zero probability, and in fact the more symmetric a graph, the lower its probability of occurrence. Erdős and Rényi showed that it is very different for (countably) infinite graphs: there is one particular graph which occurs with probability 1. This graph has a huge amount of symmetry, and many beautiful properties (related to model theory, Ramsey theory, number theory, set theory and topological dynamics, among other things), some of which I will discuss in the talk.

**palavras-chave:** Random graph; Baire category; Urysohn space; automorphisms; extremely amenable groups; Ramsey classes; cyclic shift.

## Referências

- [1] Peter J. Cameron, *The random graph*, in *The Mathematics of Paul Erdős*, ed. Ronald L. Graham, Jaroslav Nešetřil and Steve Butler, Springer, 2013, pp. 353-378
- [2] A. S. Kechris, V. G. Pestov and S. Todorcevic (2005), “Fraïssé limits, Ramsey theory, and topological dynamics of automorphism groups”, *Geom. Funct. Anal.*, Vol. 015, No. 01 (2014), pp. 106-189.
- [3] A. M. Vershik (1998), “The universal Urysohn space, Gromov metric triples and random metrics on the natural numbers (translation from *Usp. Mat. Nauk.* 53, 57-64)”, *Russ. Math. Surv.*, Vol. 53, pp. 921-928.