Universidad Carlos III de Madrid

Seminario del Instituto Gregorio Millán

Some wonderful conjectures (but almost no theorems) at the boundary between analysis, combinatorics and probability

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Resumen

The function $F(x,y) = \sum_{n=0}^{\infty} \frac{x^n}{n!} y^{n(n-1)/2}$ arises in statistical mechanics as the generating function of a single-site lattice gas, and in numerous problems in combinatorics, notably in the enumeration of connected graphs. It is in some ways the simplest entire function after the exponential function, to which it reduces when $y = 1$. Nevertheless, it has been surprisingly little studied. I will present here some amazing conjectures concerning the roots $x_k(y)$ of $F(x,y)$, discovered empirically with a little help from Mathematica. This talk is intended to be understandable to mathematicians, applied mathematicians and physicists from a wide variety of backgrounds.

- DÍA Y HORA: **Jueves 18 de febrero de 2010** a las **12:30**
- LUGAR: **Edificio Sabatini. Aula 2.1.D04**