

# **Hypergeometric formulations of exact enumeration of spanning trees and multipolygons on the square lattice**

**Gandhi Viswanathan - UFRN/RN**

According to Richard Askey, the hungarian mathematician Paul Turan believed that the term "special functions" is a misnomer and that they should instead be called "useful functions". Hypergeometric series generalize the geometric series and hypergeometric functions are some of the most important and widely studied special functions. In this context, we present 3 results:

(i) 2 hypergeometric reformulations of Onsager's solution of the 2D isotropic Ising model with symmetric couplings, (ii) an exact correspondence between the enumeration of spanning trees and multipolygons on the square lattice, and (iii) a double hypergeometric formulation of the anisotropic 2D Ising model with asymmetric couplings.