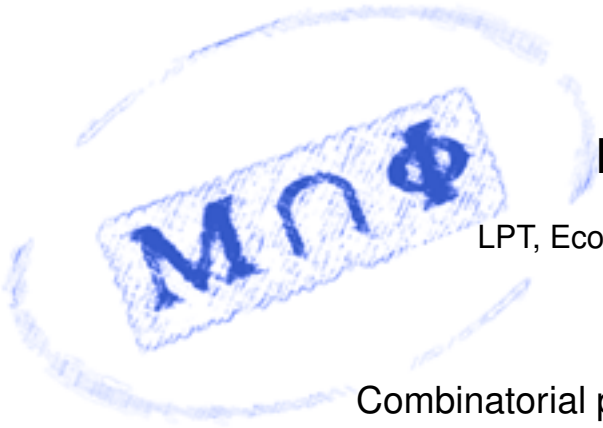
Institut de Mathématiques de Bourgogne

CNRS U.M.R. 5584

Université de Bourgogne

Séminaire de mathématique physique



Luigi Cantini

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Combinatorial properties of the $O(1)$ loop model

Résumé : The interplay between statistical mechanics and combinatorics has always been of great interest both for physicists and for mathematicians. In this talk, motivated by the remarkable conjecture of Razumov and Stroganov, which states that the properly normalized components of the ground state of the $O(1)$ loop model enumerate classes of Alternating Sign Matrices, we present the combinatorial properties of this ground state for different boundary conditions. The crucial role of integrability through the quantized Knizhnik-Zamolodchikov (qKZ) equations will be exploited. Particular attention will be paid to the case where the model is defined on a strip in which case the sum of the components of the refined ground state is given by a doubly weighted enumeration of Cyclically Symmetric Transpose Complement Plane Partitions (CSTCPP).

Jeudi 28 janvier à 16 :15 — salle A318, 3ème étage