

# Séminaire de physique mathématique

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Lundi 11/03/2019, 11h00-12h00

Orme des Merisiers Salle Claude Itzykson, Bât. 774

Dimers and circle patterns

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The dimer model is a model from statistical mechanics corresponding to random perfect matchings on graphs. Circle patterns are a class of embeddings of planar graphs such that every face admits a circumcircle. In this talk I describe a correspondence between dimer models on planar bipartite graphs and circle pattern embeddings of these graphs. As special cases of this correspondence we recover the Tutte embeddings for resistor networks and the s-embeddings for Ising models. This correspondence is also the key for studying Miquel dynamics, a discrete integrable system on circle patterns.

This is joint work with Richard Kenyon (Brown University), Wai Yeung Lam (Brown University) and Marianna Russkikh (University of Geneva).

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