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Seed Seminar of Mathematics and Physics

Mardi 23 Avril 2024, 16 :00
IMO, Online-only. Zoom link by subscribing at https ://seedseminar.apps.math.cnrs.fr/
Domaines : math-ph

Titre : *Discrete Integrability, Dimers and Geometry*

Orateur : **Niklas Affolter (Institute of Discrete Mathematics and Geometry, TU Wien, Vienna, Austria)**

Résumé : *We'll begin by explaining "discrete integrability" in the sense of multi-dimensional consistency. Discrete integrability is quite literally about the possibility to "integrate" discrete equations or discrete dynamics. The dimer model is about sampling perfect matchings on a graph, where the probability of each perfect matching is proportional to a product of edge-weights. We will see that the dimer model is discretely integrable. Finally, we consider discrete geometric maps, to which we attach a dimer model. The maps also turn out to be discretely integrable, and the dimer partition functions provide the invariants of (discrete) motions. Based on joint work with Béatrice de Tilière, Max Glick, Paul Melotti, Pasha Pylyavskyy and Sanjay Ramassamy.*