

24/03/2017

InterCity - seminar

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Bern - Fribourg/Freiburg
Neuchâtel

Time	Speaker	Talk
11:00	Amanda Cameron (Queen Mary, London)	An Ehrhart theory generalisation of the Tutte polynomial Abstract: The Tutte polynomial is one of the most important and well-known graph polynomials, and also features prominently in matroid theory. It is however not directly applicable to polymatroids, these being a natural generalisation of matroids. For instance, deletion-contraction properties do not hold. We construct a polynomial for polymatroids which behaves similarly to the Tutte polynomial of a matroid, and in fact contains the same information as the Tutte polynomial when we restrict to matroids.
13:30	Jan Draisma (Bern)	Algebraic matroids and Frobenius flocks Abstract: In characteristic zero, every algebraic matroid admits a linear representation. In positive characteristic, it turns out that every algebraic matroid admits a representation by a "Frobenius flock": a lattice worth of vector spaces that are connected by two simple axioms. These two axioms lead to a surprisingly rich theory: flocks always define matroids, they have contractions, deletions, and dual flocks, and they give rise to a partition of the lattice into cells that are both max-plus and min-plus closed. Flocks arise from other sources than algebraic matroids, as well, e.g. from linear spaces over valued fields---and even the Vamos matroid is flock-representable! Certain matroids are so rigid, that the cell structure of any flock representing them is necessarily a fan, and in this case the matroid is algebraic if and only if it admits a linear representation. This leads to new results of non-algebraicity for matroids.

The talks will take place in Room B104 of the *Institut de mathématiques* (Rue Emile Argand 11) of the *Université de Neuchâtel*.

For further informations please refer to the seminar's webpage

www.combinatorialmethods.ch/intercity/

or contact the organisers:

Emanuele Delucchi (Fribourg) — Jan Draisma (Bern) — Elisa Gorla (Neuchâtel)