19/12/2018

InterCity - seminar

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Neuchâtel - Fribourg/Freiburg
Bern

Time	Speaker	Talk
14:00	Chi Ho Yuen (Bern)	**From Break Divisors to Oriented Matroids**
		Associated to every graph G is a canonical finite abelian group Jac(G), called the Jacobian group, whose order is the number of spanning trees in G. The problem of giving a bijective proof for this enumerative result has received a considerable amount of interest, and various such bijections have been proposed. In this talk, I will explain how polyhedral geometry leads to a new 'geometric' family of such bijections, and how they provide surprising connections between several seemingly unrelated ideas, from tropical geometry to oriented matroids. This is mostly joint work with Spencer Backman and Matt Baker.
15:30	Davide Bolognini (Fribourg)	**Towards a generalization of Fröberg's Theorem**
		Fröberg's Theorem provides a combinatorial characterization of monomial ideals I generated in degree 2 with a linear resolution. In fact, this is equivalent to the chordality of a suitable graph associated to I. Several notions of chordality for hypergraphs were introduced in order to generalize this result to monomial ideals generated in higher degree, but none of them ensure the equivalence. In this seminar I will give an overview on this topic, focusing on a recent notion of chordality for hypergraphs inspired by a result of Dirac. In particular, I will state a conjecture for monomial ideals with linear quotients, explaining the connection between it and a long-standing open conjecture due to Simon on extendably shellability of uniform matroids. Partial results in this direction are given.

The talks will take place in 228 ExWi, Sidlerstrasse 5, University of Bern.

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)