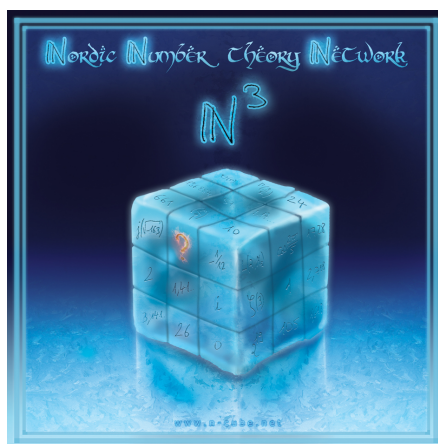


Nordic Number theory Network Days XXIV

University of Copenhagen,
April 17 – 18, 2026
organised by Anton Fehnker (KU) and Fabien Pazuki (KU).



Program

	FRIDAY 17.04			SATURDAY 18.04
13:00-13:10	<i>Foreword</i>	◇		
13:10-14:00	Bianca Viray	◇	09:10-10:00	Asbjørn Nordentoft
14:00-14:20	<i>Coffee break</i>	◇	10:00-10:20	<i>Coffee break</i>
14:20-15:10	David Burns	◇	10:20-11:10	Claire Frechette
15:10-15:30	<i>Coffee break</i>	◇	11:10-11:30	<i>Coffee break</i>
15:30-16:20	Victor Ahlquist	◇	11:30-12:20	Boris Adamczewski
16:20-16:40	<i>Coffee break</i>	◇	12:30	<i>Farewell</i>
16:40-17:30	Yves André	◇		
18:30	<i>Social event</i>			

Abstracts

TIME: Friday 17, 13:10-14:00.

ROOM: Aud 10.

SPEAKER: **Bianca Viray** (Univ Washington).

TITLE: *Unlikely ramification in residue fields of points on curves*

ABSTRACT: An accepted truism in arithmetic geometry is that curves of genus at least 2 have more complicated arithmetic than curves of genus 0 or 1. One way this is made precise is by Faltings's Theorem: any curve of genus at least 2 has only finitely many points over any number field. Another possibility for making this precise is to show that there are many number fields that cannot appear as the residue field of points on a fixed curve of genus at least 2. In this talk, we report on results in this direction, joint with Isabel Vogt.

TIME: Friday 17, 14:20-15:10.

ROOM: Aud 10.

SPEAKER: **David Burns** (King's College London).

TITLE: *Euler systems and Selmer complexes*

ABSTRACT: We aim to give a user-friendly overview of recent joint work with Dominik Burchard, which realised the long-held hope that Nekovar's theory of Selmer complexes could be profitably incorporated into the theory of Euler systems. We will provide background and motivation, stress underlying principles and discuss concrete consequences of the resulting theory for several well-known conjectures on the special values of L-functions

TIME: Friday 17, 15:30-16:20.

ROOM: Aud 10.

SPEAKER: **Victor Ahlquist** (Chalmers Univ).

TITLE: *On the counting function of cubic function fields*

ABSTRACT: The counting function of cubic field extensions of \mathbb{Q} , ordered by discriminant X , was first studied by Davenport and Heilbronn, who proved the existence of a main term. More recently, Bhargava–Shankar–Tsimmerman and Taniguchi–Thorne independently established the existence of a secondary term in this counting function. Over a rational function field, the corresponding counting function was first studied by Datskovsky–Wright, and later by Zhao. We present an improvement of their results, obtained by adapting geometry-of-numbers methods used to study cubic number fields to the function field case, and highlight how the non-Archimedean geometry makes these methods particularly effective. Our main result is an asymptotic formula, including a secondary term and an error term of order $\mathcal{O}(X^{2/3+\epsilon})$, matching the best-known result for number fields. We also show how one may obtain a lower bound on the error term of a slightly more refined counting function, by adapting a method due to Cho–Fiorilli–Lee–Södergren.

TIME: Friday 17, 16:40-17:30.

ROOM: Aud 10.

SPEAKER: **Yves André** (IMJ-PRG, CNRS).

TITLE: *Non-abelian Rees construction and pure motives*

ABSTRACT: The classical Rees construction, in constant use in commutative algebra and Hodge theory, relates filtrations, viewed as equivariant bundles under the multiplicative group over the affine line, and the associated graded spaces. The non-abelian analogue, inspired by a con-

struction of O’Sullivan, consists of replacing the multiplicative group with any reductive group: ‘even’ monoidal categories (i.e. those whose every object is annihilated by an external power) then appear as categories of equivariant vector bundles. One obtains a Galois correspondence between certain quasi-homogeneous spaces and certain even monoidal categories, which applies to the context of pure homological motives, and leads to concrete consequences, e.g a new proof of the Clozel-Deligne theorem on numerical equivalence on abelian varieties over finite fields.

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TIME: Saturday 18, 09:10-10:00.

ROOM: Aud 10.

SPEAKER: **Asbjørn Nordentoft** (Univ Copenhagen).

TITLE: *Around the existence of horizontal p -adic L -functions*

ABSTRACT: The non-vanishing problem for families of L -values is a notoriously hard one. In this talk I will explain a p -adic approach in the context of twists by characters of fixed order, relying on the study of a certain integral p -adic measure (horizontal p -adic L -functions). I will discuss a condition on the image of Galois representations that ensure the existence of such p -adic measures and results on when this condition is satisfied. This yields new simultaneous non-vanishing results for twists of modular forms.

TIME: Saturday 18, 10:20-11:10.

ROOM: Aud 10.

SPEAKER: **Claire Frechette** (Umeå Univ).

TITLE: *Large Sums of Divisor-Bounded Multiplicative Functions*

ABSTRACT: Given a multiplicative function f , let $S(x, f) = \sum_{n \leq x} f(n)$ be the associated partial sum. In this talk, we discuss how partial sums of individual functions affect the partial sum of the product. Specifically, we show that lower bounds on partial sums of divisor-bounded functions result in lower bounds on the partial sums associated to their products. Inspired by results of Granville and Soundararajan for Dirichlet characters, show that this type of bound can be extended not only to modular forms, but to any pair of functions bounded by the same power of the divisor function.

TIME: Saturday 18, 11:10-12:20.

ROOM: Aud 10.

SPEAKER: **Boris Adamczewski** (Univ Lyon 1, CNRS).

TITLE: *A transcendental perspective on a conjecture of Furstenberg*

ABSTRACT: In the late 1960s, Furstenberg proposed a number of conjectures, which have since become famous, aiming to formalize rigidity and independence phenomena for certain classical dynamical systems, such as multiplication by an integer on the circle. In a parallel way, the study of transcendental numbers is largely motivated by the search for comparable phenomena. In this talk, I will explain how the theory of finite automata appears at the confluence of these two subjects. The talk is based on joint work with Colin Faverjon.

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