

Max (Maxim) Mornev

Curriculum vitae, actual as of April 16, 2025.

Contact details

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Mailing address

(to appear soon)

Research area

Number theory

Preprints and papers

Local Kummer theory for Drinfeld modules

(with Richard Pink)

arXiv:2402.08254

Local monodromy of Drinfeld modules

Compositio Mathematica **160** (2024), no. 11, 2656 – 2683

Tate modules of isocrystals and good reduction of Drinfeld modules

Algebra & Number Theory **15** (2021), no. 4, 909 – 970

Shtuka cohomology and special values of Goss L -functions

arXiv:1808.00839

This is my PhD thesis with minor updates.

Tannakian properties of unit Frobenius-modules

Journal of Number Theory **166** (2016), 19 – 30

Employment

2025 ICMAT, post-doc in the group of Daniel Macias.

2021 EPFL, SNSF Ambizione post-doc in the group of Maryna Viazovska.

2018 ETH Zürich, post-doc in the group of Richard Pink.

Education

- 2018 PhD, Universiteit Leiden, Università degli Studi di Milano
ALGANT program
- Advisors: Lenny Taelman (Amsterdam), Fabrizio Andreatta (Milano) and Bas Edixhoven (Leiden).
Thesis: Shtuka cohomology and special values of Goss L -functions
<https://hdl.handle.net/1887/61145>
- 2013 MSc, Universiteit Leiden (1st year), Université Paris-Sud (2nd year)
ALGANT program
- Advisor: François Charles
Thesis: Zero-cycles on surfaces
<http://algant.eu/documents/theses/mornev.pdf>
- 2011 MSc degree in "Mathematics. Computer Science", Ural Federal University

Grants

SNSF Ambizione grant, 2021 – 2025

ETH Zürich Postdoctoral Fellowship, 2019 – 2021

Leiden/Huygens Fellowship, 2013 – 2017
There are three such fellowships per year for the entire faculty of science.

ALGANT Doctoral Scholarship, 2013 – 2017

ALGANT Master Scholarship, 2011 – 2013

Lecture series

- 2020 Arithmetic of function fields
ICMAT, Universidad Autónoma de Madrid
- 2019 Shtuka cohomology and special values of Goss L -functions
Université Claude Bernard Lyon 1
- 2018 Arithmetic of shtukas
Arithmétique et géométrie des chtoucas
Université de Caen

Teaching

Riemann surfaces (MATH-410)

EPFL, Fall 2023 and Fall 2024, master course, lecturer.

Elliptic curves

ETH Zürich, Spring 2020, reading course for master students, lecturer.

p -adic Galois representations

ETH Zürich, Fall 2019, graduate course, lecturer.

Étale cohomology seminar

ETH Zürich, 2018 – 2019, co-organized with Richard Pink.

<https://max-mornev.github.io/etale.html>

Galois Representations and Automorphic Forms

Universiteit van Amsterdam, Fall 2016, national graduate level course, teaching assistant.

Talks

2024 Local Kummer theory for Drinfeld modules
ICMAT, Universidad Autónoma de Madrid

Local Kummer theory for Drinfeld modules
2nd AMS-UMI International Joint Meeting

Local Kummer theory for Drinfeld modules
Workshop “Alpbach 2024”

2022 Local monodromy of A -motives
Second joint congress of AMS–EMS–SMF
Université Grenoble Alpes

2021 An ∞ -adic criterion of good reduction for Drinfeld modules
Groups, arithmetic and algebraic geometry seminar
EPFL

What is a shtuka?

Groups, arithmetic and algebraic geometry seminar
EPFL

What is a shtuka?

Zürich Graduate Colloquium
ETH Zürich

Local monodromy of Drinfeld modules
Universität Münster

- 2020 Local monodromy of Drinfeld modules
Number Theory Seminar
University of California San Diego
- Local monodromy of Drinfeld modules
AMS Fall Eastern Virtual Sectional Meeting
- Local monodromy of Drinfeld modules
Oberseminar Algebraische Geometrie
Universität Zürich
- Tate conjectures in function field arithmetic
Upstate New York Online Number Theory Colloquium
- 2019 An ∞ -adic criterion of good reduction for Drinfeld modules
Arithmetic of Function Fields and Diophantine Geometry
National Center for Theoretical Sciences, Taipei
- Shtuka cohomology and special values of Goss L -functions
AMS Spring Central and Western Joint Sectional Meeting
University of Hawai'i at Mānoa
- An ∞ -adic criterion of good reduction for Drinfeld modules
Hawai'i Number Theory Conference
University of Hawai'i at Mānoa
- 2018 Shtuka cohomology and special values of Goss L -functions
Seminar der Forschergruppe 'Symmetrie, Geometrie und Arithmetik'
Universität Heidelberg
- Regulator theory for elliptic shtukas
Arithmetic and algebraic geometry seminar
Universiteit van Amsterdam
- Formulas of Tamagawa type in positive characteristic
This Week's Discoveries (Faculty of Science colloquium)
Universiteit Leiden
- 2017 Shtuka cohomology and special values of Goss L -functions
Conference "Arithmetic of Function Fields"
Universität Münster
- Shtuka cohomology and special values of Goss L -functions
Intercity number theory seminar
Universiteit van Amsterdam
- 2016 Shtuka cohomology and special values of Drinfeld modules
Seminar Zahlentheorie
ETH Zürich

- 2015 Tannakian properties of Frobenius-invariant sheaves
Workshop on function fields, zeta functions and Drinfeld modular forms
Imperial College London

Organizational experience

- 2011 School on algebra and algebraic geometry (Yekaterinburg)
<https://marina-p.info/school-on-algebra-and-algebraic-geometry>
- In 2015 Pavel Solomatin and I organized a seminar on Drinfeld modules:
<https://max-mornev.github.io/dm.html>

Service

Reviewed a grant application, a book and numerous papers.