
60th Birthday Conference
for
Alexander Schmidt
Étale Homotopy Theory
Heidelberg
March 9 – 13 2026

Organizers:

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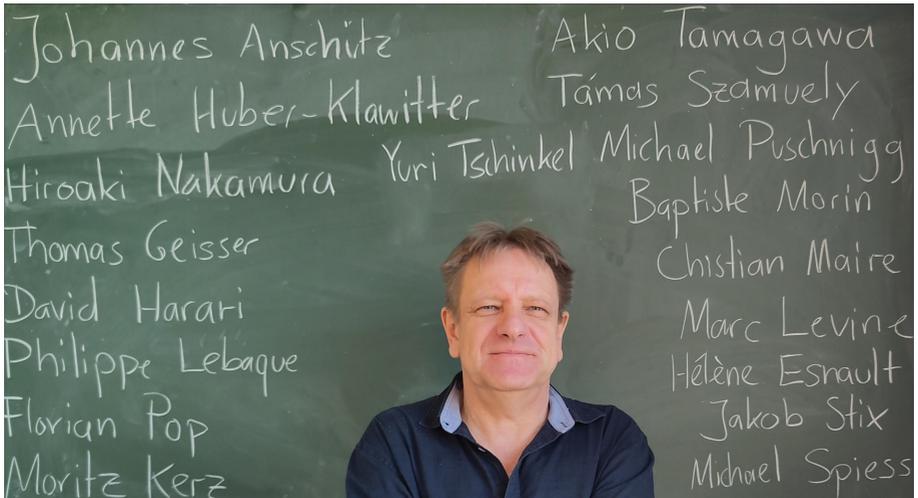


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1 Program

All lectures and talks take place in the “Hörsaal” of the Mathematikon (Address: *Im Neuenheimer Feld 205*). Here is our schedule:

	Monday	Tuesday	Wednesday	Thursday	Friday
9:30	Leonhardt	Anschütz	Maire	Tamagawa	Levine
11:00	Stix	Esnault	Nakamura	Huber-Klawitter	Geißer
12:00	Lunch	Lunch	Lunch	Lunch	Snack (*)
13:30	Szamuely	Spiess	Harari	Kerz	Puschnigg (**)
15:00	Morin	Tschinkel	Pop	Hike	
				Dinner	

(*): We will provide a savory snack in Seminar Room C before the last talk.

(**): This talk starts at 12:30 pm.

Coffee breaks take place in Seminar Room C. All lectures are 60 minutes long.

You can also use the Common Room on the 5th floor between talks.

Note that you will have to register at the registration desk in the foyer, see also section 3.2.

Johannes Anschutz: Divisoren auf der Fargues-Fontaine-Kurve

In diesem Vortrag möchte ich verschiedene Modulräume von Grad 1 Divisoren auf der Fargues-Fontaine-Kurve diskutieren, und erklären wie diese eine Geometrisierung von Fontaines (ϕ, Γ) - bzw. $(\phi, N, Gal_{\mathbb{Q}_p})$ -Moduln erlauben. Desweiteren möchte ich einen Ausblick geben, wie diese Theorie eine analytische Prismatisierung und eine Geometrisierung einer möglichen lokal-analytischen p -adischen Langlandskorrespondenz erlaubt. Der Vortrag beruht auf gemeinsamen Projekten mit Bosco, Le Bras, Scholze und Rodriguez-Camargo.

Hélène Esnault: Restriction map in prismatic cohomology

We study the restriction map in prismatic cohomology of a smooth proper variety to the one of an affine, showing vanishing under a Hodge type cohomological condition.

Thomas Geißer: Rigidity in Motivic Cohomology

We discuss independence of the algebraically closed base field and finiteness of motivic and étale motivic cohomology with finite coefficients of smooth and proper varieties. If the variety is defined over a finite field, we also discuss the weaker question of independence of the fiber of the Frobenius on the algebraically closed field.

David Harari: Arithmetic duality theorems and algebraic groups

We present various arithmetic duality theorems related to the étale or fppf cohomology of commutative group schemes. We provide applications to the arithmetic of linear algebraic groups over global fields of characteristic p and other function fields.

Annette Huber-Klawitter: Periods and o -minimality

Periods are numbers defined as values of integrals of arithmetic nature. They are a classical object of transcendence theory. The Period Conjecture gives a conceptual explanation for all relations between them in terms of two fibre functors on the category of motives over \mathbb{Q} . On the other hand, they have a very explicit description in terms of volumes of \mathbb{Q} -semialgebraic sets.

More recently, exponential periods have come into focus. By joint work with Comelin and Habegger, they can be described as volumes of definable sets in a certain o -minimal structure. In the talk, we are going to argue that tame (o -minimal) geometry is the natural setting for the Period Conjecture and its generalisations. We will explain the state of the art, in particular de Rham cohomology in the o -minimal setting.

No knowledge of o -minimality is assumed.

Moritz Kerz: Algebraic flat connections and o -minimality

In joint work with H. Esnault, we investigate the definability of flat sections of algebraic flat connections within the framework of o -minimal theory. We demonstrate that the connection is regular-singular with unitary monodromy eigenvalues at infinity if and only if a specific definability property is satisfied, thereby refining previous results established by Bakker and Mullane.

Marius Leonhardt: The affine Chabauty method

Given a hyperbolic curve Y defined over the integers and a finite set of primes S , the set of S -integral points $Y(\mathbb{Z}_S)$ is finite by theorems of Siegel, Mahler, and Faltings. Determining this set in practice is a difficult problem for which no general method is known. In this talk I report on joint work with Martin Lütke in which we develop a Chabauty–Coleman method for finding S -integral points on affine curves. We achieve this by bounding the image of $Y(\mathbb{Z}_S)$ in the Mordell–Weil group of the generalised Jacobian using arithmetic intersection theory on a regular model.

Marc Levine: Localization in the minus part via the real realisation

We give a report on versions of classical Atiyah–Bott localization in the setting of generalised motivic cohomology theories living in the minus part of the motivic stable homotopy category, with the main examples being Witt sheaf cohomology and Witt theory. The main thrust is to replace the classical approach relying on a \mathbb{G}_m -action with one that uses instead an action by SL_2 or the normalizer of the torus in SL_2 . We will also discuss recent work involving other groups. The new input involves a description of the real points of BG , from work of Ambrosi-de Gaay Fortnam and Mantovani-Matszangosz-Wendt, together with Bachmanns description of the real realisation as ρ localisation.

Christian Maire: Governing fields, the Scholz–Reichardt Theorem and beyond

In this talk, we recall Alexander Schmidts theorem on the cohomological dimension of the pro- p groups G_S . We emphasize the importance of a governing field, which already appears in the proof of the Scholz–Reichardt theorem, providing a positive answer to the Inverse Galois Problem for p -groups. We then present several variants and related topics: the Galois problem for the p -Hilbert tower; constructions of Galois representations with only tame ramification; and the Strong Massey property for number fields. This is joint work with Farshid Hajir, Michael Larsen, Jan Minac, Ravi Ramakrishna, and Nguyen Duy Tan.

Baptiste Morin: Zeta-values and the Beilinson fiber square

We give a conjectural description of Zeta-values of arithmetic schemes in terms of two perfect complexes of abelian groups and a canonical trivialization. Then we state a (proven) archimedean analogue of this conjecture. In order to show compatibility with the classical Bloch-Kato conjecture, we study the Beilinson fiber square from a prismatic viewpoint, which provides precise integral information. This implies new cases of the Bloch-Kato conjecture. This is joint work with Matthias Flach and Achim Krause.

Hiroaki Nakamura: Profinite Eisenstein invariants in the Grothendieck–Teichmüller theory

The monodromy action on the meta-abelian fundamental group of a once-punctured elliptic curve provides a certain family of quantities “Eisenstein invariants”. In this talk, we discuss their extensions to those quantities on what B. Enriquez (2014) introduced as the elliptic Grothendieck–Teichmüller group GT_{ell} . We also provide a snapshot of GT_{ell} with the profinite braid tower in the background from a viewpoint of my collaboration with A. Minamide (2022).

Florian Pop: The t -birational Section Conjecture - Old & New

After briefly recalling the t -birational Section Conjecture (t -BSC) in the larger context of the SC, I will mention old and new results concerning the t -BSC. A main theme of my talk is giving generalizations and “minimalistic” refinements of the classical t -BSC (over quite general base fields, beyond the context of Grothendieck’s SC). I will also give a list of open problems.

Michael Puschnigg: Operator-K-Theorie und zyklische Homologie

Die Operator- K -Theorie hat sich als die bedeutendste homologische Invariante von Banach- und C^* -Algebren erwiesen. Trotz der völlig elementaren Definition ist ihre Berechnung aber ausgesprochen schwierig.

Mit der (lokalen) zyklischen Homologie wurde eine Homologie-Theorie für Banach-Algebren konstruiert, die einerseits eine gute Approximation der K -Theorie liefert, andererseits aber mit Mitteln der homologischen Algebra relativ gut berechenbar ist.

Wir erklären im Vortrag die Grundzüge dieser Theorie und studieren an diversen Beispielen, wie viel Information beim Übergang von der K -Theorie zur zyklischen Homologie verloren geht. Dabei spielen die (reduzierten) C^* -Algebren Gromov-hyperbolischer Gruppen mit Kazhdans Eigenschaft (T) eine zentrale Rolle.

Michael Spiess: Eisenstein classes; applications and recent results

I will present recent applications of Eisenstein classes to regulators and special values of L -functions for totally real number fields (joint work with S. Dasgupta, A. Galanakis and M. L. Honnor).

Jakob Stix: Anabelian geometry with the étale topos over sub- p -adic fields

Anabelian geometry has been understood predominantly as the geometry encoded in the arithmetic of fundamental groups. An early approach in the 1990ies by Voevodsky, that is also based on Grothendieck's famous letter to Faltings, extracts geometry from the étale topos of a variety. 'Voevodsky anabelian geometry' has been revisited and expanded recently by Carlson, Haine and Wolf. In this talk we will report on work together with Magnus Carlson that covers varieties over sub- p -adic fields.

Tamás Szamuely: Étale cohomology over the maximal Kummer extension of a number field

Let X be a smooth projective geometrically connected variety defined over a number field K . I shall be reporting on recent joint work with Davide Lombardo where we prove that the geometric étale cohomology of X with \mathbb{Q}/\mathbb{Z} -coefficients has finitely many classes invariant under the Galois group of the maximal Kummer extension of K in odd degrees. In particular, every abelian variety has finite torsion over the maximal Kummer extension. This improves results by Rössler and the speaker as well as Murotani and Ozeki.

Akio Tamagawa: Local systems on varieties and their restriction to points

A local system on a variety is interpreted as a linear representation of the fundamental group of the variety. In the algebro-geometric setting (over an algebraically closed field), the restriction of a local system to a (closed) point is clearly trivial, while in the arithmetico-geometric setting (over an "arithmetic" field), it is usually highly nontrivial and sometimes even strongly controls the behavior of the original local system. In this talk, I will treat some topics from my long-time collaboration with Anna Cadoret on this issue.

Yuri Tschinkel: Birational geometry over BG

I will discuss recent results and constructions in equivariant birational geometry (joint with I. Cheltsov, A. Kresch, B. Hassett, and Zh. Zhang).

3 General Information

3.1 Lecture Hall

The talks will take place in the **lecture hall (Hörsaal)** of the **Mathematikon** building, located at the address *Im Neuenheimer Feld 205*.

Note that there are three similar buildings next to each other that are all called Mathematikon. The conference takes place in the southernmost one of them, directly across the tram station “Bunsengymnasium” and a Shell gas station.

When entering from the (southern) main entrance, you will find the lecture hall on the ground floor at the end of the left hand wing of the building.

3.2 Registration

Upon your arrival it is necessary to sign in at the registration desk in the foyer. Registration is before the first lecture **from 9 am on Monday**, the 9th of March.

At the registration you can **receive free vouchers for lunch at the university cafeteria** (see Section *Restaurants* below).

3.3 Reception

On **Monday, the 9th of March** around **5 pm**, there will be a reception in the Common Room on the fifth floor with food and drink.

3.4 WiFi

Eduroam is available on the campus of Heidelberg University. Alternatively, you can use the free WiFi Heidelberg4you.

3.5 Hike & Conference Dinner

On **Thursday, the 12th of March** we will have a **conference dinner**, starting at **7 pm** at the restaurant “Zum Roten Ochsen”. The address is *Hauptstraße 217, 69117*. We will have a leisurely hike together before the dinner, ending at the restaurant.

If you want to go directly from the Mathematikon to “Zum Roten Ochsen”, you can take bus RNV 31 in the direction of “Altstadt” to the station “Herrenmühle” to get as close as possible.

4 About Heidelberg

4.1 Restaurants

Out of a large variety of restaurants in Heidelberg the following is meant to be a subjective and by no means complete collection of nice places to check out, or to have lunch close to the venue. To start with, here are the major options to have lunch inside the campus:

Name	Address	Cuisine
Zentralmensa	INF 304	Cafeteria with buffet (vouchers)
Café Botanik	INF 304	Snacks, Salad and Pizza (cash only)
Görtz	Berliner Str. 43	Bakery and café
Bellini	INF 371	Standard italian cuisine
Neuenheim Döner	Furtwänglerstr. 13	Best Döner in town, cheap & fast

University cafeteria “Zentralmensa”: With one voucher (received from the registration desk) you can **fill one plate at the buffet** (“Ausgabe B”) each day. The buffet is **reached via the stairs (marked with the letter B or color red)** that come up right after entering through the front entrance of the cafeteria building.

Note that the **vouchers can only be used for the buffet**, and you can only use them for **exactly one plate per lunch**. In the vicinity of the old town, we can recommend the following restaurants:

Name	Address	Description
La Bruschetta	Plöck 56	Both foodstore and tiny restaurant, right from Naples
Soban	Zwingerstr. 21	Small and cosy korean restaurant
Konomi	Plöck 75	Japanese cafe serving a few excellent dishes, open during daytime only
Bay Jok	Bergheimer Str. 137	More expensive but great Thai cuisine, nice vegan dishes
Raja Rani	Friedrichstr. 15	Cheap and great Indian dishes, lots of vegan options
Schwarzer Peter	Römerstr. 34	A great and affordable place to hang out an evening
Vetter’s Alt Heidelberger Brauhaus	Steingasse 9	Traditional German restaurant with house-brewed beer

There are also the following nice restaurants in Handschuhsheim (northern part of the town, on the way to Dossenheim):

Name	Address	Description
La Locanda 26	Steubenstr. 26	Small and solid italian restaurant, great food for its price
Gilbert's Gold-ener Adler	Handschuhsheimer Landstraße 96	Another old original, German cuisine

4.2 Nightlife

As a student city Heidelberg has some decent bars and offers possibilities for late night activities. The hot spot is the Untere Straße which is stuffed with iconic bars and pubs, but you will also find plenty of opportunities for a drink in Hauptstraße, which is just one block up the road. Generally, the old town is the place to be. Both the castle view-point and the famous Philosophenweg are just a stone's throw away. During weekends, trams to Dossenheim leave every hour throughout the night from Bismarkplatz (see also the Getting Around Section). **Remember to take cash with you** when going out, as payment by card might not be available in your favourite bar.

Recall that most bars and pubs in Heidelberg allow to smoke inside, which is heavily made use of.

Name	Address	Description
La Fée	Untere Straße 29	Stylish cocktail bar, but rather expensive
Sonder Bar*	Untere Straße 13	Crowded pub serving everything
Destille*	Untere Straße 16	Lots of shots
Max Bar*	Marktplatz 5	Popular student pub
Orange*	Ingrimstr. 26	Small but classy and cheap pub
Drugstore*	Kettengasse 10	Another small student pub
The Dubliner*	Hauptstr. 93	The usual irish pub
Vater Rhein*	Untere Neckar-Str. 20	A traditional german pub
Café Bar Grano	Kornmarkt 9	Calm café/bar serving coffee, wine and food

Here, * denotes smoking bars.

4.3 Sightseeing

Apart from the beautiful **Altstadt** (old town) with its **Old Bridge**, some famous destinations for sightseeing are **Heidelberg Castle** and the **Thingstätte**, as well as various routes for hiking in the forests and hills surrounding the city.

You could start with the **Philosopher's Path** on the northern side of the Neckar opposite the old town, about halfway up the hillside. Enjoying the phenomenal view on the old town and the castle from there, it might also help to get a sense of orientation. As for more adventurous hikes, you can explore the old trade routes along the Neckar valley, such as the **Neckarsteig**, or walk your way up to the Thingstätte, an old Nazi open air theatre.

The old town is worth a stroll on its own, with its half-timbered houses and old palaces. The latter can even be explored from the inside, as a lot of them belong to **Heidelberg University**. Walking up to the castle during night time makes for a nice experience, before having a beer at one of the bars we listed above. In case you want to see the city illuminated, keep in mind that illumination of the castle, the churches and other monuments is switched off after 10 pm for energy saving reasons.

Heidelberg is one of few Unesco Cities of Literature. There are lots of public bookshelves, bookstores and antiquarian bookshops all around, usually also supplied with foreign language books. Notable ones are Antiquariat Hatry with its four floors (antiquarian, Hauptstr. 119) and the tiny artes liberales (bookstore, Kornmarkt 8).

4.4 Contact Information

If you have any questions regarding the conference, feel free to contact either of the organizers or our secretaries:

- Brigitte Apfel
Phone: +49 6221 54 14234
Email: apfel@mathi.uni-heidelberg.de

5 Public transportation

5.1 General information

Apart from the variety of buses and trams you can use to navigate the city, going via bike is also a good option as Heidelberg is a pretty compact city. There is a Nextbike station right at the Heidelberg Hauptbahnhof for example. You will also find electronic scooters all over the town.

5.2 Hotel directions

- **Heidelberg Main Station** → **Hotel Ibis**: Exit the station northwards. The hotel is to the right by the parking lot.
- **Heidelberg Main Station** → **Boutique Hotel**: Exit the station northwards and find tram 5 towards “Bismarckplatz”. Take the tram for 10 stations to “Brückenstraße”. After exiting, the hotel is on the corner of Brückenstraße and Ladenburger Straße, 2 blocks south of the tram stop.
- **Heidelberg Main Station** → **Café Frisch**: Exit the station northwards. Take either bus RNV 20 or RNV 31 towards Altstadt for 8 stops, exiting at “Jahnstraße”. The hotel is 1 block east from there on the left side of the street.

The stations are also marked on the tram map in the last section.

5.3 Directions for the Mathematikon (conference venue)

The station closest to the lecture hall is **Bunsengymnasium** (near the shell gas station). From there, the Mathematikon building is directly across the street.

- **Hotel Ibis/Heidelberg Main Station (Hauptbahnhof)** → **Mathematikon**: Tram line 24 in the direction “Handschuhsheim Nord”, exiting at the station “Bunsengymnasium” (marked in blue).
- **Boutique Hotel** → **Mathematikon**: Take the bus RNV 31 from “Brückenstraße” to “Bunsengymnasium”. The Mathematikon is just to the left. Alternatively, walking takes about 20–25 minutes.
- **Café Frisch** → **Mathematikon**: Take a bus or tram from “Jahnstraße” to “Bunsengymnasium”. The Mathematikon is just to the left. Alternatively, walking takes about 10 minutes.

5.4 Tram map

You can find an up to date interactive tram map on the *RNV web site*, and a local map of Heidelberg on *OpenStreetMap*.

