

# Simon Pepin Lehalleur

## Curriculum Vitae

### Personal information and contact

**Nationality:** French

**Date of birth :** 9th of January 1986

**Mail:** simon.pepin@math.uzh.ch

### RESEARCH AND TEACHING

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#### Research interests

Mixed motives; triangulated categories of mixed motives over a base.

6 operations formalism.

Relative 1-motives; abelian schemes, Picard schemes, Neron models and related objects.

Motivic aspects of intersection cohomology and perverse sheaves.

Shimura varieties, their compactifications and associated motives.

#### Research positions

Phd under Prof. Joseph Ayoub (University Zürich), defended on November 6th 2015 2011-2015

Title: "*An abelian category of relative 1-motives*"

2 years as a PhD student in Paris 13 under the supervision of Prof. Jörg Wildeshaus 2009-2011

#### Research articles

Subgroups of maximal rank of reductive groups, in "Autour des schémas en groupes", *Panoramas et Synthèses* series, SMF (to appear)

On the relative motive of a commutative group scheme (with G. Ancona and A. Huber), arXiv:1409.3401, *Algebraic geometry*, (to appear)

The motivic  $t$ -structure for relative 1-motives, arXiv:1512.00266

#### Research talks

The motivic  $t$ -structure for relative 1-motives, Freiburg (Oberseminar), October 2015

Deligne 1-motives in the triangulated categories of mixed motives, Paris Réga December 2012

The Borel-De Siebenthal theorem, Luminy (SGA3 summer school) September 2011

Motives and compactifications of Shimura varieties, Zürich (Prodoc Seminar) December 2009

#### Research grants

Forschungskredit: Candoc, University of Zürich, 55200 CHF 2013-2014

#### Teaching

Teaching assistant (TA) for graduate level courses: Algebraic Geometry (Prof. Joseph Ayoub), Differential Forms in Algebraic Topology (Prof. Camilo Arias Abad).

TA for Lineare Algebra in German (Prof. Christian Okonek)

TA for an programming online course based on Python (Prof. Paul-Olivier Dehaye); writing the automatic grader in Python and the programming assignments.

## EDUCATION

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A semester in Northeastern University (Boston) studying with Prof. Marc Levine	2008
M2 of mathematics in University Paris 7 Denis Diderot	2008
M2 memoir under the supervision of Anne Queguiner-Mathieu (University Paris 13)	2008
“Agrégation de Mathématiques”	2007
M1 of mathematics with mention, université Paris 11 Orsay	2006
L3 of mathematics with mention, université Paris 11 Orsay	2006
Passed the competitive examination to enter the Ecole Normale Supérieure	2005
“Classes préparatoires” in the lycée Henri IV (Paris)	2003-2004

## SKILLS AND MISCELLANEA

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### Languages

French : native

English : written, spoken (fluent)

Spanish : written, spoken (near-fluent)

German : written, spoken (B2)

### Programming and software environments

Working knowledge of Python for scientific computing (numpy, scipy, pandas, scikit-learn)

### Service

Coorganised the Graduate Colloquium of the Graduate School of Mathematics Zürich 2013-2014

Worked with the association Animath on the preparation of French high-school students for the International Mathematical Olympiads 2012

### Competitions and awards

Participated in the International Mathematical Olympiads 2003

”Concours Général de mathématiques”, Paris, 3rd place 2003