Anne-Edgar WILKE

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Education

2012	High school degree in Science
	First Class Honours.
2012 – 2014	Higher School Preparatory Classes
	Lycée Louis-le-Grand (Paris).
2014 – 2018	Student at the École Normale Supérieure (Paris)
	Ranked 7th in the nationwide entrance examination.
2014 – 2015	Bachelor of Mathematics
	First Class Honours.
2015 – 2017	Master of Mathematics
	First Class Honours. Main courses taken:
	 Algebraic number theory;
	• Scheme theory;
	Analytic number theory.
2017 – 2018	Bachelor of Computer Science
	First Class Honours.

Theses and research internships

Early 2015	Undergraduate thesis in Mathematics	
	Subject: Representations modulo p of $GL_n(\mathbb{F}_q)$.	
Late 2015	Thesis required to complete the course in Formal Languages	
	Subject: Applications of the Thue-Morse sequence.	
Early 2017	Master's internship	
	Adviser: Yuri Tschinkel (New York University).	
	Subjects: Exceptional isogenies between reductions of pairs of elliptic	
	curves; Generalised polynomials and rational fractions.	
Mid-2018	Research internship in Computer Science	
	Adviser: Yan Gerard (Université Clermont Auvergne).	
	Subject: The lonely runner conjecture.	
Late 2018	Final thesis required by the École Normale Supérieure	
	Subject: Arakelov Geometry.	

Late 2018 Research internship in Mathematics

 Adviser: Jean-Benoît Bost (Université Paris Sud).
 Subject: Theta invariants and arithmetic surfaces.

 2019 – 2024 Doctorate of Mathematics

 Adviser: Karim Belabas (Institut de Mathématiques de Bordeaux).
 Subject: Enumerating integral orbits of prehomogeneous representations.

Computer programming

Late 2014	Course in Programming Languages and Compilers I wrote a compiler in OCaml for a subset of the Haskell language, producing MIPS code.
Late 2017	Course in Digital Systems
	I designed a microprocessor in terms of logic gates, as well as an assembly language for this microprocessor. Then I programmed a digital clock in this assembly language.
Early 2018	Course in Systems and Networks
·	I wrote a Unix-type operating system in C for the Intel 8086 micropro- cessor.
Early 2018	Course in Semantics and Software Verification I wrote a basic static analiser and partially certified it with Coq.

Publications and preprints

2023	Convexity, plurisubharmonicity and the strong maximum modulu principle in Banach spaces	
	Confluentes Mathematici 15 (2023) 83-106. [DOI]	
	Preprints in French and in English: HAL:03826500, HAL:03826538,	
	arXiv:2210.14087.	
2024	Kempf-Ness covariant and reduction theory	
	In preparation.	
2024	Effective enumeration of quartic number fields	
	In preparation.	

Computations

2022 Primitive quartic number fields of absolute discriminant at most 10⁹ Data: Zenodo:7254825. Code: HAL:03879661.

Conferences and talks

Late 2019	Conference "Zeta functions"
	Centre International de Rencontres Mathématiques (Marseille).
Late 2020	Talk at the Seminar of Algorithmic Number Theory (Bordeaux)
	Title: Optimal coverings of truncated Siegel sets with Euclidean balls.
Mid-2021	Conference "Explicit Methods in Number Theory"
	Mathematisches Forschungsinstitut Oberwolfach.
Late 2022	Talk at the Seminar of Geometry (Bordeaux)
	Title: Kempf-Ness covariant and reduction theory.
Late 2022	Talk at the Seminar of Algorithmic Number Theory (Bordeaux)
	Title: Enumeration of quartic number fields.
Early 2023	Talk at the conference "Arithmetic Statistics"
	Centre International de Rencontres Mathématiques (Marseille).
	Title: Effective enumeration of quartic number fields.

Working groups

2020 – 2021 Working group on class field theory I organised a working group whose purpose was to learn part of the material in the book "Algebraic Number Theory" edited by Cassels and Fröhlich. The working group met every week. Here are the titles of the talks that I gave: Extensions of non-Archimedean local fields; Global fields; Profinite groups and Galois theory;

Abelian extensions of local fields.

Teaching experience

Teaching assistant for the courses "Coloration mathématique" and
"Outils mathématiques pour la biologie"
First year undergraduate courses.
Teaching assistant for the courses "Algèbre linéaire", "Mathéma-
tiques discrètes" and "Analyse"
First year undergraduate courses.
Teaching assistant for the course "Mathématiques générales"
First year undergraduate course.

Computer skills

Programming languages:	C, OCaml, Unix shell.
Mathematical software:	PARI/GP, Magma, Octave.