Gunther Cornelissen • curriculum vitæ • publication list appended • December 17, 2023

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Born	July 4th, 1971 — Gent (Belgium)
Nationality	Dutch (The Netherlands)

Current position

Professor of mathematics
Chair in Geometry and Number Theory
Universiteit Utrecht, The Netherlands

Areas of specialization

Number theory | Arithmetic & algebraic geometry
Graph Theory | Differential Geometry | Logic
Theoretical computer science | Mathematical physics

Appointments held (↑)

2023-2027	Universiteit Utrecht, Director of Research, Mathematical Institute
2019	Universiteit Utrecht, promoted to full professor H1 (highest departmental level)
2015-2017	Universiteit Utrecht, Head of Department of Mathematics
	(Mathematical Institute & Science Education Institute)
2014	University of Warwick (UK); visiting professor (1.5 months)
	Caltech (USA); visiting professor (1.5 months)
2012-	Universiteit Utrecht, full professor H2; Core Chair "Geometry and Number Theory"
2007-2012	Universiteit Utrecht; full professor; Profile Chair "The interaction between mathematical physics and arithmetic geometry"
2001-2007	Universiteit Utrecht; lecturer; '03/'05 part-time parental leave
2001	Katholieke Universiteit Leuven (Belgium); part-time visiting professor
1997–2001	Max-Planck-Institut für Mathematik (Bonn, Germany); researcher
1996	Universität des Saarlandes (Saarbrücken, Germany); one month research assistant
1993–2001	FWO (Flemish National Science Foundation, Belgium); pre-/post-doctoral researcher
1993–1997	Universiteit Gent (Belgium); research and teaching assistant

Grants, honours, named lectures & awards (↑)

2020	Research Member Berkeley/MSRI Program *Decidability, definability and computability in number theory*
2017	Utrecht Faculty of Science Westerdijk Award (for creating a more diverse organisation)
2017	Morning speaker, 69th *British Mathematical Colloquium*, Durham
2014	Invited research professor, *Trimestre on noncommutative geometry*, Hausdorff Institute (Bonn)
2012	Elected member of the *Royal Holland Society of Sciences and Humanities* (KHMW)
2012	Twenty-first annual *Charles R. DePrima* memorial lecturer, Caltech

2011	Elected *Arbeitstagung* speaker, Bonn
2009	Invited researcher, *Hausdorff Institute* (Bonn), Trimestre on diophantine equations (declined)
2007	Invited speaker at the *Clay Mathematical Institute* (Boston)
2004	Berkeley/MSRI semester-long visiting professorship (declined)
2002;07	Nominated best junior teacher at Universiteit Utrecht by mathematics student union

individual grants

2021	NWO ENW-M PhD position grant (€ 300,000)
2012	NWO GQT-cluster PhD position grant (€ 170,000)
2009	Utrecht University Focus Area "Foundations of Natural Sciences" grant for partial funding of a PhD position (approx. € 100,000)
2008	NWO personal 5-year senior innovational research grant (VICI) (€ 1,250,000) *From arithmetic geometry to noncommutative Riemannian geometry, and back*
2004	NWO personal 5-year mid-career innovational research grant (VIDI) (€ 600,000) *Non-archimedean geometry and automorphic forms*
1997–2000	Max-Planck-Gesellschaft one year research scholarship (repeatedly offered)
1993-2001	FWO pre- and postdoctoral research scholarship (full salary & benefits)

collaborative grants

2017-2021	CS department collaboration grant; one PhD student (with Bodlaender; € 200,000)
2015-2021	Principal applicant "Utrecht Geometry Centre"; 4 PhD students (NWO; € 850,000)
2009-2014	ESF network "Interactions between low-dimensional topology and physics" (director J.E. Andersen; approx. € 600,000)
2007-2008	Two Dutch-French NWO Van Gogh exchange grants with Paris (with Mézard; € 9,600)
1997–2001	Co-principal investigator on FWO-project Algebraic Geometry (€ 11,500)

smaller grants

2023	NPO Student Welfare grant to test deficiency remedies for first years students (€ 5000; used to second a high school teacher)
2022	Open Access book publication grant, NWO (€ 7000)
2019	Visitor grant, DIAMANT research cluster, for Farbod Shokrieh (€ 2000)
2018	Visiting Professorship, UU Complex Systems Focus Area, for Matilde Marcolli (€ 2100)
2004-	Grants for various workshops from NWO, Research schools, Research clusters, Foundation Compositio, Monna Fund and ESF (approx. € 50,000)
2002	NWO visitor grant for F. Kato (Kyoto) (€ 1,000)
1997	Travel grant from Wuytack Fund (€ 1,500)

Marie-Curie Fellow grants supervised

—Grant proposals written by fellows but grants officially held by supervisor

2022	Marie-Curie grant for Carla Groenland (€ 188,000)
2017	Marie-Curie grant for Ana Ros Camacho (€ 166,000)
2015	Marie-Curie grant for Martijn Caspers (€ 166,000)
2009	Marie-Curie grant for Jonathan Reynolds (€ 120,000)

Education (↑)

1993–1997	PhD in mathematics, Universiteit Gent, Belgium Supervisors: Jan Van Geel (Gent) and Ernst-Ulrich Gekeler (Saarbrücken)

1989–1993	Masters ("Licentiaat") in pure mathematics, Universiteit Gent, summa cum laude
	Supervisors: Jan Van Geel (Gent) and Juliusz Brzezinski (Göteborg)
1993	One semester Erasmus exchange student at Chalmers Högskola (Göteborg)
1983–1989	High school diploma at Sint-Lievencollege Gent (main subjects: Latin/mathematics)

Qualifications (↑)

2016	Administrative academic leadership track, Universiteit Utrecht (Erwin Vermeulen)
2016	Programme "Managing expectations in professionals", Wheel of Change (Elmira Nijhuis)
2015	Training "Gender awareness", Direction (Esther Mollema)
2008	Training "Assessment and development interviews", Universiteit Utrecht (Juditha Melssen; Teun van Aken)
2008	Senior qualification in university teaching (SKOw), Universiteit Utrecht
2008	Senior qualification in research (SKOz), Universiteit Utrecht
2002	Basic university teaching qualification (BKOw), Universiteit Utrecht
1992–1996	Certificate of Swedish language (Hogeschool Gent)
1993	(Legal) degree in high school teaching, Universiteit Gent, magna cum laude

Invitations (↑)

Recent scientific invitations

2024	Seminar & Colloquium, Groningen
2023	Algebra and Geometry Seminar, Stockholm
	Colloquium, Athens (Greece)
2022	Oberseminar Zahlentheorie, Göttingen
	XXIII International Workshop for Young Mathematicians "Number Theory", The Zaremba Society of Mathematicians, Krakow (6 lectures)
	Number Theory Lunch Seminar, MPIM Bonn
	Mathematische Gesellschaft (= Colloquium), Göttingen
	Pure Mathematics Colloquium, Durham (online)
2021	Number theory seminar, U Wisconsin–Madison (online)
	Seminario de Álgebra, Combinatoria y Teoría de Lie, INMABB Argentina (online)
	Workshop *Arithmetic, Geometry, Cryptography, and Coding Theory*, CIRM Marseille (contributed, online)
2020	IMPAN number theory seminar, Warsawa (online)
	Number theory seminar, Stockholm (SU)
	Colloquium, Stockholm Mathematical Centre (KTH & SU)
2019	Collaborative Number Theory Seminar, CUNY Graduate Center
	Algebra Seminar, UPenn
	Mathematical Colloquium, Toronto
	Mathematisches Kolloquium, Ulm
	Shaoul Fund IAS Workshop on *Function Field Arithmetic*, Tel-Aviv

Some earlier invitations (C=Colloquium; Conf=Conference; L=Lecture series)

AIM Palo Alto (Conf), Amsterdam UvA (C+Conf), Amsterdam VU (C), Banff (Conf), Barcelona (Conf), Benasque (Conf), HIM Bonn, MPIM Bonn (Conf), Brussels, Caen, Caltech, Clay Institute Boston (Conf), Crete, CUNY, Dagstuhl (Conf), UC Dublin, Durham (C), Eindhoven (C), Erlangen (C), Essen, ETH Zürich, FSU (C), Gent, Göteborg (Conf), Göttingen (C),

Groningen (C), Hannover, Hiroshima (Conf), Hokkaido, ICTP Trieste (Conf), IMPA Rio (C), Karlsruhe (Conf), Kassel, Kinosaki (Conf), Köln, Krakow, Kyoto, Leiden (C), Leuven, London, Luxembourg (C), MPIM Bonn, Mons, Münster (C, Conf), Newcastle UK (L), Nijmegen (C+Conf), Heidelberg/Oberflockenbach (Conf), Oberwolfach (multiple), Ohio State (Conf), Osaka, Oslo, Oxford (Conf), Saarbrücken (C), SNS Pisa (Conf), Stanford, UCLA (C), UCSD (C), Ulm, UPenn, Utrecht (C), Toulouse, Vanderbilt (Conf), Versailles (Conf), Villa de Leyva (L), Warsaw, Warwick, Zürich

Educational talks & outreach & media

— at Utrecht unless indicated; NWD = 'Nationale wiskundedagen', Noordwijkerhout (Math teacher postgraduate event, 700 participants); VVW = 'Vierkant voor Wiskunde' (Math summer camp for high school students); Ouderdag = lectures for parents of mathematics students

2023	*Wrong proofs*, Pub Lecture, As^2 student organisation
2023	Lecture $1 + 2 + 3 + \ldots$ for freshmen, As^2 student organisation
2023	*The Banach-Tarski paradox: out of one orange, make two*, NWD
2023	Workshop bridging secondary and higher education (topic: diversity in the class room)
2022	*Mathematics is dangerous*, public lecture at IMAGINARY exhibition
2022	*Littlewood polynomials*, NWD (with David Hokken)
2021	Interviewed for a podcast on the future of mathematics education, Hogeschool Arnhem-Nijmegen
2020;23	Lecture *Solving polynomial equations in integers* for freshmen, As^2 student organisation
2020	Interviewed for the project *Achieving good science – A cross-disciplinary study (UvA)*
2020	*Graphs and matrices: from walks on graphs to complex numbers*, NWD
2019	*A research career in mathematics*, for mathematics honours bachelor students
2018-21	"U-talent" lecture for high school students
2017	Interviewed for Faculty Intranet and Student Society "Vakidioot" about diversity
2017	*Doing a PhD (or not)*, As^2 (Student society) Career Days
	'Meet the Professor' on *Shape reconstruction* for elementary school children
2017;18	Webinar Masters Mathematics (video presentation for prospective students)
	Emmy Noether and symmetry, NWD
2016	Interviewing Gerard 't Hooft at Masters Introduction Graduate School of Natural Sciences
	Talk at FysiCie (Utrecht Physics Students society) on *Isospectrality*
2015	*Graphs and matrices*, VVW
2014	Interviewed about Gender policy by β-inspired
	Euler or Excel: how computers and calculators changed number theory, NWD
2013	Internationalisation@Home panel, Universiteit Gent
	Three "U-talent" lectures for high school students
	Junior college module (high school students): *The Riemann hypothesis* (with Andringa)
	Two-day masterclass on *Diophantine equations* for high school students
2012	Marie Curie Colloquium (Nijmegen Physics Student Union): *One hundred years of drumming*
	Opening lecture Dutch university mathematical olympiad: *Meeting donuts*
2011	Work with Marcolli discussed in Marcus Y. Woo, *Unexpected connections*, in: Engineering and Science (Winter 2011) pp. 26–31.
	National PhD student research afternoon, Utrecht: *The work of Milnor on isospectrality*
2010	Interviewed (with Klaas Landsman) for N.W.O.-brochure *Mathematics clusters*, "Geometry and Quantum Theory"-theme.
	Klein's Erlangen programme, NWD

2009	*"Listening" to shapes*, NWD
	Mathematics and Passion, Gent: *Solve, or I will shoot…*; preceded by the play "Evariste" by theater group NUNC
	Things you will never be able to do (Undecidable problems), Ouderdag
2008–	Visited various high schools with a project on diophantine equations (e.g., in Haarlem, Woerden, Zeist)
	Organized project afternoons on number theory for high school students
2008	Initiated project on polyhedra at two elementary schools in Utrecht
	Lustrum lecture for student union "de Leidsche Flesch"
	Initated project Dutch subtitles for documentary about Julia Robinson; for high school use
	Teacher post-graduate education at "β onder de Dom"; Lorentz Center
	Wonders of mathematical cooking (Banach-Tarski paradox), Ouderdag
	Consulted for *Int. J. Radiation Oncology Biol. Phys.* **72** (2008), No. 5, 1416–1425.
2007	*Listening to shapes* (Isospectrality), Ouderdag
	Opening lecture Dutch university mathematical olympiad: *Diophantine equations*
2005	*How to get from A to B?* (Coarse geometry), Ouderdag
	Euler, balloons, and all that, VVW
2004	*Looking at diophantine equations "from a distance"*, NWD
2001–	Various talks at open days for prospective students: *Can $1 + \ldots + m = 1^2 + \ldots + n^2$?*
1995	Interviewed by Steven Stroeykens, *Fermat eindelijk overwonnen*, de Standaard (newspaper)

Supervision & teaching ($\downarrow$)

Senior staff supervised

2012-2024	Dr. Jaap van Oosten, associate professor in mathematical logic
2016-2020	Dr. Damaris Schindler, assistant professor in analytic number theory
2017-	Dr. Viktor Blåsjö, assistant professor in history of mathematics
2017-	Dr. Steven Wepster, assistant professor with educational profile
2019-	Dr. Valentijn Karemaker, assistant professor in arithmetic geometry
2020-	Dr. Lola Thompson, associate professor of number theory
2022-	Dr. Paige North, assistant professor in mathematics related to computer science
2023	Dr. Carla Groenland, assistant professor in discrete mathematics (Marie-Curie scholarship)

Postdoc supervision

2009–2011	Bram Mesland
	Jorge Plazas
	Jonathan Reynolds (Marie-Curie scholarship)
2011	Lode Wylleman
2015-2018	Martijn Caspers (Marie-Curie scholarship)
2016–2019	Ana Ros Camacho (Marie-Curie scholarship & 3-year NWO veni grant)

PhD thesis supervision (14)

2008	Oliver Lorscheid, *Toroidal automorphic forms for function fields*
2009	Jakub Byszewski, *Aspects of equivariant deformation theory* (co-supervisor Ariane Mézard)
2011	Jan Willem de Jong, *Zeta function rigidity — a view from non-commutative geometry*
2012	Jan Jitse Venselaar, *Classification & equivalences of noncommutative tori & quantum lens spaces*
2013	Janne Kool, *Curves, graphs and dynamics*

2014	Sebastian Klein, *Chow groups and intersection products for tensor triangulated categories* (co-supervisor Paul Balmer)
2016	Valentijn Karemaker, *Hecke algebras, Galois representations and abelian varieties*
2020	Harry Smit, *Relating Galois representations via L-series and dynamical systems*
	Recipient of the Hendrik Lenstra Wisselbeker (best PhD lecture at DIAMANT symposium) 2018
2020	Timo Kluck, *Dimensional & algorithmic reductions for Calogero–Ruijsenaars & Landau–Ginzburg models* (co-supervisors Ana Ros Camacho and Johan van de Leur)
2021	Marieke van der Wegen, *Complexity of graph problems: gonality, colouring and scheduling* (co-supervisor Hans Bodlaender)
	Recepient of a Swaantje Mondt Fund Travel Grant 2017-2018
2021	Jan-Willem van Ittersum, *Partitions and quasi-modular forms: variations on the Bloch-Okounkov theorem* (co-supervisor Don Zagier)
	Winner of the KWG PhD Prize 2020 for the best thesis presentation
	Winner of the Stieltjes Prize 2021 for the best Dutch PhD thesis in mathematics
2023 (exp.)	Berend Ringeling (second supervisor, main supervisor Wadim Zudilin; Radboud Universiteit), *Mahler measures, modular forms and hypergeometric functions*
2025 (exp.)	Mieke Wessel, *Additive combinatorics and algebraic varieties* (second supervisor, main supervisor Damaris Schindler; Universität Göttingen)
2026 (exp.)	David Hokken, *Zeros of Littlewood polynomials* (co-supervisor Lola Thompson)

Formal PhD supervision (6)

In the Dutch system, every PhD student needs a "promotor"; a formal supervisor who is a full professor, and sometimes a formal second supervisor

2019	Lasse Grimmelt (promotor; daily supervisor: Damaris Schindler)
2022	Sophie Huiberts (promotor; daily supervisor: Daniel Dadush, CWI)
	Winner of the Stieltjes Prize 2022 for the best Dutch PhD thesis in mathematics
2020-	Mar Curcó Iranzo (promotor; daily supervisor: Valentijn Karemaker)
2021-	Mireia Martínez i Selarès (promotor; daily supervisor: Viktor Blåsjö)
2022-	Sebastián Carillo Santana (promotor; daily supervisor: Lola Thompson)
2022-	Samira Le Grand (promotor; daily supervisor: Lola Thompson)

Master thesis supervision (49)

2004	Syb Botma, *Tro-p-adical geometry* (with Stienstra)
2005	Sander Bessels, *One step beyond the solvable equation*
2006	Marco Streng, *Elliptic divisibility sequences with complex multiplication*
	published in Algebra & Number Theory, **2** (2008), No. 2, 183-208
	Ruden Teuben, *The theorem of Riemann-Roch for number fields*
2007	Maarten van Pruijssen, *Tautological cycles on Jacobians* (main supervisor: van der Geer)
	Puspita Sari, *Graph puzzles* [Mathematics Education]
2008	Esther Bod, *Hilbert's tenth problem*
	Lotte van der Zalm, *Arithmetic equivalence*
	published in J. Numb. Th. **130**, (2010), 1000-1012
2009	Rutger de Looij, *Primes in elliptic divisibility sequences*
	Sebastian Klein, *Reconstructive geometry in certain triangulated categories*
	Prize for best master thesis from national research cluster in geometry and quantum theory, 2009
	Alvaro Veliz Osorio, *Holographic dendrology* [Master class "Calabi-Yau Geometries" essay]
2010	Ori Yudilevich, *Zeta functions on Riemannian manifolds and noncommutative spaces* [Master

class "Arithmetic geometry and noncommutative geometry" essay]

Javier Saenz, *On the group completion of the fundamental group of a compact Riemann surface* [Master class "Arithmetic geometry and noncommutative geometry" essay]

2011   Jori Matthijssen, *Common divisors of elliptic divisibility sequences over function fields*

Peter Toth, *Geometric abelian class field theory* (main supervisor: Heinloth)

2012   Renée Hoekzema, *Generalized causal dynamical triangulations in 2d* (main supervisor: Loll)

2014   Florian Kluck, *A metric in the space of spectral triples*

Koen van Woerden, *Variation of the number of points on elliptic curves*

Peter Lombaers, *Dessins d'enfants for surfaces*

2015   Jeroen Hanselman, *Semi-stable reduction and models of curves*

2016   Harry Smit, *Global field isomorphisms: a class field theoretical approach*

Daniel Kroes, *Edge reconstruction of graphs*

2017   Tom van Overbeeke, *The Euler totient function in short intervals*

    preprint arxiv:1706.04028, unpublished

Lois van der Meijden, *Iteration of rational functions in positive characteristic*

    appendix in preprint arxiv:1706.04028, appeared in Contemp. Math.

Maxim Faber, *Elliptic functions in condensed matter physics* (with Rembert Duine, ITF)

2017   Marieke van der Wegen, *Stable gonality of graphs* (with Hans Bodlaender, CS)

    preprint arxiv:1706.05670; extended abstract in WG 2018 (Springer LNCS); Best Student Paper Award; appeared in TCS

Jelco Bodewes, *Divisorial gonality of graphs* (with Hans Bodlaender, CS)

    preprint arxiv:1706.05670; extended abstract in WG 2018 (Springer LNCS); Best Student Paper Award; appeared in TCS

2018   Sophie Huiberts, *How large is the shadow? Smoothed analysis of the simplex method* (main supervisor: Daniel Dadush)

    preprint arxiv:1711.05667; extended abstract in STOC 2018 (ACM Digital Library)

    appeared in Siam J. Computing

Jeroen Huijben, *Deformation theory of group actions on curves*

Djurre Tijsma, *Elements of finite order in the Nottingham group through automata*

    J. Alg. **602**, 484–554 (2022)

Marc Houben, *Dynamics on algebraic groups*

    Contemp. Math. **744**, pp. 125–156, 2020.

    very much extended version preprint arxiv: 2209.00085.

2019   Joost Franssen, *Essential dimension*

Berend Ringeling, *Zeros of modular forms*

    extended version preprint arxiv:2211.01114

2020   Lars van den Berg, *Topics in the theories of means and discrete dynamical systems*

Tysger Boelens, *Existential decidability in power series rings over finite fields*

Alex Braat, *Behavior of primes in division fields of elliptic curves*

Mar Curcó Iranzo, *Weierstrass points on modular curves and supersingular elliptic curves*

Robert Slob, *Primitive divisors on elliptic curves*

    New York J. Math. **28** (2022), 230–249

2021   Onno van Zomeren, *Solving polynomial equations in power series using function fields: algorithms, bounds and experiments*

David Hokken, *Zeros of Littlewood polynomials with restricted Galois group*

2022   Corijn Rudrum, *Elliptic curves and class groups of hyperelliptic function fields*

Marlien Wennekes, *Dynamics on reductions of elliptic curves modulo primes*

Dylan Feenstra, *An adelic look at the class number formula and the Birch–Swinnerton-Dyer conjecture*

Mieke Wessel, *Sparse power series of finite order*

2023 Victor de Vries, *Extensions of group varieties and l-adic cohomology*
> Winner of the KHMW Dutch Master thesis prize in Mathematics

Ludo Dekker, *The Markoff equation*

2024 (exp.) Anouk Eggink, *Diophantine maps*

Joppe Stokvis, *Missing class groups*

Franca Sloos,

Bachelor thesis supervision (51)

2002 Ryk Westwood, *Dirichlet theorem for polynomials over finite fields*

2003 Wouter Waalewijn, *Rank of elliptic curves under field extensions*

Marius de Leeuw, *Integer points on elliptic curves*

Martijn Kool, *The local-global principle for conics and elliptic curves*

Ruden Teuben, *Fermat's last theorem for regular primes*

2004 Willem Maat, *Collatz Problems*

Jan-Willem de Jong, *Cyclotomic field extensions of $\mathbf{Q}$ and $\mathbf{F}_q(T)$*

Marco Streng, *Analytic proofs of quadratic and quartic reciprocity*

2005 Sander Bessels, *Primes of the form $x^2 + ny^2$*

2006 Joris Borgdorff, *Expanding graphs*

Jannis Visser, *Computations in the K-theory of C^*-algebras of graphs with small Betti number*

[University College Science Lab SCI 291 thesis]

2008 Wouter van der Bilt, *Elliptic curves and class numbers*

2009 Johan Konter, *K-theory of graphs and buildings*
> published in: J. Konter and A. Vdovina, Classifying polygonal algebras by their K_0-group,
> Proc. Edinburgh Math. Soc. (2) **58** no. 2 (2015), 485–497

Daniele Giovannini, *Elementary proofs of Dirichlet's theorem for polynomials*

Rianne Maes, *Cryptography with elliptic curves*

2010 Maria Velema, *Graph puzzels and exceptional geometries*

Thom Klaasse, *Distances between metric spaces*

2012 Ederick Ruiz, *Finite p-groups are nilpotent*

2013 Willem Pranger, *Riemann's explicit formula for the prime counting function*

2014 Merlijn Staps, *Sumsets and difference sets*
> published in: The relative sizes of sumsets and difference sets, Integers **15** #A42 (2015), 6pp.

Franziska Gerken, *The Ihara zeta function of a graph*

2015 Jan-Willem van Ittersum, *Mahler's measure and Möbius transformations*
> published in: A group invariant version of Lehmer's conjecture on heights,
> J. Numb. Th. **171** (2017), 145–154

Thijs van der Gugten, *Fermat's last theorem for regular primes*

Alexander Gietelink, *The noncommutative boundary of the moduli space of elliptic curves*

Jetze Zoethout, *The edge adjacency matrix of a graph*

Lars van den Berg, *The Riemann hypothesis for elliptic curves over finite fields*

2016 Ragnar Groot Koerkamp, *Computational aspects of gonality of graphs*

Joost Franssen, *The casus irreducibilis*

Mees Verheije, *The scarcity of polynomial with non-maximal Galois group*

Joost Houben, *Undecidability of the spectral gap*

2018	Eva van Ammers, *Galois groups and Drinfeld modules*
	Rens de Heer, *Deciding solvability in radicals in polynomial time*
	Laurent Floor, *Provable security in cryptography*
	Alex Braat, *Counting functions for primes in polynomial rings*
2020	Joost Mein, *Divisibility sequences and primitive divisors*
2021	Anouk Eggink, *Cyclic extensions of function fields and power series of finite compositional order*
	Fien van Berkel, *On Frucht's theorem and universality for various classes of finite graphs*
	Levi van de Pol, *On m-curling sequences* (main supervisor: Dion Gijswijt)
	Serge van den Broek, *Lens sequences in Apollonian circle packings*
2022	Luke van de Kraats, *Diophantine triples and elliptic curves*
	Thom Zwamborn, *Subdividing polygons into an odd number of equal area triangles*
	Maarten van Dijk, *Modular representations and Brauer characters, & applications to manifolds*
	Jasper Oostlander, *Central extensions and projective representations of Lie groups and Lie algebras in quantum physics* (joint with physics; physics supervisor: Erik Plauschinn)
	Marloes de Roock, *Symmetric primes and graphs*
	Neri van Ee, *Heuristics trees in undergraduate algebra (part I)* (main supervisor: Rogier Bos)
	Ilse Peek, *Heuristics trees in undergraduate algebra (part II)* (main supervisor: Rogier Bos)
	Kika Dimitrić, *The Prouhet–Tarry–Escott problem and indecomposable polynomials*
	Luuk Kip, *Structure of coprime graphs*
	Anniek Reuijl, *Multiple zeta values*
2023	Levi van Lieshout, *Matrices over polynomial rings and cellular automata*
	Tijmen Romijn, *Electromagnetic duality and modular forms* (joint with physics; physics supervisor: Erik Plauschinn)
2024	Thian Tromp, *tba*
	Rein ter Rele, *tba*

Other supervision

2002–2016	Supervision of various small first year bachelor research project groups:
	— constructibility by ruler and compass
	— transcendental numbers
2018–	Supervision of various small first year master research project groups:
	— Value added modelling (with Spitoni)
	— Periodic points of polynomials over finite fields, after Juul et. al.
	— The Schinzel–Zassenhaus conjecture, after Dimitrov
	— Multiplicative automatic sequences, after Kurlberg, Klurman and Konieczny
	— Splitting of polynomials modulo primes and modular forms, after Serre, Khare et. al.
	— What is Malle's conjecture?
2007,09	Supervision of Junior College Theses: (high school students)
	— Valentijn Karemaker, Brigitte Sprenger, Bruno van Albada, *Understanding sliding puzzles, Rubik's Cube, and other permutation puzzles* [winner of the van Melsen Prize for best science highschool thesis and prize winner at European Young Investigators Conference (St.-Petersburg)]
	— Saskia Chambille, Tessa Matser, Marisse Westbroek, *Gödel's theorem under a variable logic*
2015-	Supervision of various honours projects:
	— Group cohomology
	— Coxeter groups
	— The role of the axiom of choice in abstract algebra
	— Historical evolution of the group theory concept

Teaching (at Utrecht, unless stated otherwise)

1993	*Calculus* (High school teaching Lyceum; St.-Lievenscollege Gent, 4 weeks)
1993–1997	T.A. for *Algebra* (Gent, 2nd year) T.A. for *Computer algebra* (Gent, 3rd year)
2001	*Riemann surfaces* (Leuven, masters)
	Mathematics for Chemists: vector calculus (bachelor level; evening classes)
	Algebraic number theory (3rd year)
2001	*Algebra A (Rings)* (2nd year)
	Algebra B (Groups) (2nd year)
	Algebra C (Galois theory) (2nd year)
2002;03;08	*Caleidoscope of mathematics* (1st year); lecture on "Rational points on conics"
2002	*Rings* (2nd year)
	Groups and Galois theory (2nd year)
	Elliptic curves (3rd year)
2003	*Group theory* (2nd year)
	Galois theory (2nd year)
	Seminar on p-adic numbers (3rd year, following a book by Cassels)
2004	*Rings and Galois theory* (2nd year)
	The Mordell-Weil theorem for abelian varieties (Spring School Abelian Varieties; 7h)
2005	*Group theory* (2nd year)
2006	*Rings and Galois theory* (2nd year)
2007	*Arithmetic of elliptic curves* (Summer School; 6h)
2008	*Elliptic curves* (national masters)
	Topics in mathematical research: K-theory of graphs (Gent, guest lecture; 4h)
2008;09	*Diophantine equations: possibilities and impossibilities* (Junior College Utrecht; highschool Mathematics level D)
2009	*Moduli of elliptic curves* (masters)
2010	*Seminar on Fuchsian groups* (masters, following a book by Katok)
	Seminar on spectral triples (masters, following original papers)
2011	*Seminar on metric spaces* (bachelor, following a book by Burago-Burago-Ivanov)
	What is mathematics? (bachelor, 1st year)
2012	*21st century notions of "space" in mathematics* (Descartes College; university-wide honours)
	What is mathematics? (bachelor, 1st year)
	Seminar on quadratic forms and L-series (bachelor, following a book by Serre)
2013	*Seminar on Galois groups and fundamental groups* (masters, following a book by Szamuely)
	Group Theory (bachelor, 2nd year)
	Seminar on Fourier analysis on number fields (masters, following a book by Ramakrishnan and Valenza)
	Honours bachelor seminar on graph theory (bachelor; with F. Beukers and T. Müller)
2014	*Group Theory* (bachelor, 2nd year)
2015	*Seminar on Arithmetic on Curves* (masters, following papers; with C. Faber)
	Orientation on research in geometry (coordinator & presented 6h lectures on L-series)
2016	*Seminar Advanced Topics in Elliptic Curves* (masters; with V. Karemaker, following a book by Milne and papers)
	p-adic numbers (6h, bachelors; Summer School)
	Orientation on research in mathematics (coordinator & presented 4h lectures on isospectrality)
2017	*Seminar Number Theory: Local-global principles* (masters; with D. Schindler and H. Smit),

following books by Poonen and Davenport)

PhD research training (for honours masters students; with H. Smit)

Zeta functions (6h, bachelors; Summer School)

2018 *Orientation on research in mathematics* (coordinator)

Seminar Number Theory: Quadratic forms (masters; with D. Schindler and H. Smit)

PhD research training (for honours masters students; with J.W. van Ittersum)

Lecture at matching days

2019 *Seminar Number Theory: Applications of modular forms* (masters; with J.W. van Ittersum and H. Smit)

Academic CV writing (for honours masters students; with J.W. van Ittersum)

Communicating Mathematics (bachelor, 2nd year)

2020 *Seminar Number Theory: Expanding graphs* (masters; with J.W. van Ittersum, H. Smit and Marieke van der Wegen)

(for honours masters students; with J.W. van Ittersum)

Communicating Mathematics (bachelor, 2nd year)

Introduction to groups and rings (bachelor, 1st year)

2021 *Seminar Number Theory: Arithmetic dynamics* (masters; with V. Karemaker)

Academic CV writing (for masters students; with David Hokken)

Communicating Mathematics (bachelor, 2nd year)

Introduction to groups and rings (bachelor, 1st year)

2022 *Seminar Number Theory: Arithmetic manifolds* (masters; with L. Thompson)

Communicating Mathematics (bachelor, 2nd year)

Introduction to groups and rings (bachelor, 1st year)

Proofs in Mathematics (bachelor, 1st year)

2023 *Seminar Number Theory: Drinfeld modules* (masters; with V. Karemaker)

Introduction to groups and rings (bachelor, 1st year)

2024 *Bachelor thesis (common part)* (with S. Wepster)

Introduction to groups and rings (bachelor, 1st year)

Descartes Honours College (university-wide), two lectures

Service to the profession (↓)

Editorships

2006-2009 Zebra (book series for high school students)

2008-2013 Nieuw Archief voor Wiskunde (Dutch Mathematical Society magazine)

2018- Indagationes Mathematicae (scientific journal of the Dutch Mathematical Society, since 2019 coordinating editor for algebra, number theory and algebraic geometry)

Guest Editorships

2005 (edited with Frans Oort) *Problems from the workshop on "Automorphisms of Curves"* (Leiden, August, 2004), Rend. Sem. Mat. Univ. Padova **113** (2005), 129–177; updated version published 2019 as Appendix 2 "Automorphisms of curves—2005 collection" in: Open problems in arithmetic algebraic geometry, pp. 285–293, Adv. Lect. Math. (ALM) **46**, Int. Press, Somerville, MA

2008 (edited with Gerard Alberts, Patrick Oonincx and Martin Raussen) *Amsterdam Archive*, special issue of Nieuw Arch. Wiskd. (5) **9**, nr. 2 (June 2008), issued on the occasion of the fifth European Congress of Mathematics, Amsterdam, July 13–18, 2008

2013	(edited with Gianni Landi) Special issue *Noncommutative Algebraic Geometry and its Applications to Physics* (Leiden, March, 2012), Journal of Geometry and Physics
2020	(edited with Jan van Neerven) Special issue in memory of *Hans Duistermaat*, Indagationes
2021	(edited with Eric Opdam) Special issue (3 volumes) in memory of *T.A. Springer*, Indagationes

Memberships of professional & learned societies

2005-	Koninklijk Wiskundig Genootschap (Dutch Mathematical Society)
2005-	American Mathematical Society (Life long member)
2006-	DIAMANT research cluster (Discrete, Interactive and Applied Mathematics, Algebra and Number Theory)
2006-	GQT research cluster (Geometry and Quantum Theory)
2012-	Koninklijke Hollandsche Maatschappij der Wetenschappen (Royal Holland Society of Sciences and Humanities; elected member)
2022-	Duodecim (century old 'society of 12 professors' at Utrecht; elected)

Conference & Seminar Organisation

1996	*Drinfeld modules, moduli schemes and applications* (Alden-Biezen); with Van Geel.
1999	*Hilbert's 10th problem: relations with arithmetic & algebraic geometry* (Gent); with Denef et. al.
1998–2001	weekly Oberseminar MPIM (Bonn)
1998–2001	weekly number theory lunch seminar MPIM (Bonn)
2000	*Arithmetic geometry*, meeting BMS/DMV meeting (Liège); with Huber, Künemann, Veys
2001	Day on *200 years of number theory after Gauss* (Gent), with Van Geel
2001–	Various Dutch Intercity Seminars on Number Theory at Utrecht
2002	Mini-workshop *Hilbert's tenth problem, Mazur's conjecture and divisibility sequences* (Oberwolfach); with Matijasevich, Shlapentokh, Vsemirnov, Zahidi
	Intercity Learning Seminar *Automorphic forms that admit an infinite series expansion*; with Dijkgraaf, Heckman, Looijenga
2003–2006	Weekly colloquium Utrecht; with Crainic, van de Leur
2004	*Automorphisms of curves* (Leiden); with Oort
2005	*Arithmetic geometry and high energy physics* (Leiden); with Marcolli, Waldron
2008	*Applications of noncommutative geometry* at ECM (Amsterdam); with Landsman
	GQT meets DIAMANT (cluster meeting) (Leiden); with Draisma
	Genus two day, Utrecht
	12th *Workshop on Elliptic Curve Cryptography* (ECC), Utrecht; with Bernstein et. al.
2009	*The analytic theory of automorphic forms* (Utrecht); with Beukers
	Seminar day Δ *and* $\bar{\Delta}$: *number theory and global analysis* (Utrecht)
	Aachen-Köln-Lille-Siegen-etc. seminar day on modular forms (Utrecht); with Bruinier
2010	Intercity seminar day on *Number theory and physics* (Utrecht)
2011	Intercity seminar day on *Number theory and measure theory* (Utrecht)
	WONDER-afternoon on the work of Milnor (Utrecht)
2012	WONDER-afternoon on the work of Szemeredi (Amsterdam); with Eisner
	Mini-symposium on *Noncommutative spaces* (Utrecht)
	Noncommutative algebraic geometry and physics (Leiden); with Bruzzo, Landi, Roubtsov
2013	WONDER-afternoon on the work of Deligne (Delft); with van Neerven
	Special functions and special numbers (Utrecht); with Dahmen
	Mini-symposium on *combinatorics & arithmetic geometry* (Utrecht)

	Intercity seminar day on *Gonality* (Utrecht)
2013-2014	*Geometry and Quantum Theory Graduate School & Colloquium* (Woudschoten); with Cavalcanti, Posthuma and Solleveld
2013-2017	Seminar *Geometry and Algebra* (Utrecht); with Faber
2014	WONDER-afternoon on the work of Sinai (Eindhoven); with Koren
	Berkovich Skeletons: a minicourse by Nicaise and Payne (Utrecht); with Draisma
	Intercity seminar day on *Number Theory and Algebraic Groups* (Utrecht)
	Mini-symposium on *Triangulated categories & algebraic geometry* (Utrecht)
2015	*Aachen-Köln-Lille-Siegen-etc. seminar day on modular forms* (Utrecht); with Zwegers
2016	Mini-symposium *Hecke meets Galois* (Utrecht)
2018	Utrecht Geometry Centre Masterclass on *Topological Data Analysis* (Utrecht); with Moerdijk
	Aachen-Köln-Lille-Siegen-etc. seminar day on automorphic forms (Utrecht); with Moree
2019	Intercity Number Theory Seminar (Utrecht)
	2-day workshop on *Complexity of Chip Firing and Sandpile Models* at Utrecht Centre for Complex Systems Studies; with Bodlaender
2022	Combined meeting *Arithmétique en plat pays / Getaltheorie in het vlakke land & Intercity Number Theory Seminar* (Utrecht); with Karemaker
2023	Intercity Number Theory Seminar (Utrecht); with Karemaker, Pieropan and Thompson
2024	Dutch National Mathematics Congress (member of the scientific committee)

Reviewing & Refereeing

1999-	Referee for journals (with multiplicities): Acta Arith., Acta Math., Adv. Math., Am. J. Math., Ann. E.N.S., Ann. Inst. Fourier, Ann. K-theory, Archiv Math., Comm. Numb. Th. Phys., Compos. Math., C.R.A.S., Discrete Math., Duke Math. J., Illinois J. Math., Indagationes Math., Integers, I.M.R.N., Int. J. Numb. Th., Israel J. Math., J. Algebra, J.A.M.S., J.E.M.S., J. Geom. Phys., J. London Math. Soc., J. Noncommut. Geom., J. Numb. Th., J. Pure Appl. Alg., Lett. Math. Phys., Math. Ann., Math. Proc. Camb. Phil. Soc., M.R.L., Pacific J. Math., p-adic Numb. Ultrametric Anal. Appl., P.A.M.S., Proc. Edinburgh Math. Soc., Quarterly J. of Math., Ramanjuan J., T.A.M.S., etc.; as well as various proceedings volumes (STOC, etc.)
1999-2015	Reviewer for *Zentralblatt der Mathematik* (approx. 3 reviews per year, total 45)
1999-	Referee for ANR, DFG, EPSRC, ERC, ESF, FONDECYT, FWO, ICMS, ISF, NSERC, NSA, NSF, NWO
2015-	Evaluation for various tenure/promotion proposals (Greece, UK, USA,…)
2005-2006	Selection committee for NWO personal early career grants (VENI)
2009-2011	Selection committee for NWO MEERVOUD programme ("more women in exact sciences")
2012	Selection committee for NWO-EW Free Competition grants
2013	Selection committee for NWO-EW TOP-2 Grants (Chair)
2016	ESF Lead reviewer for the mathematical research unit, University of Luxemburg
2017-	ESF College of Expert Reviewers, member
2018	Evaluation panel Clusters of Excellence in mathematics (DFG)
2019;23	Evaluation panel Graduiertenkolleg (DFG)

PhD thesis evaluation committees

— R=reading committee, E=exam committee; at Utrecht Mathematics unless indicated

— In the period 2015-2018, I chaired (most) PhD defenses ex officio, so I could not be on the committee

1999	Karim Zahidi (R, Gent)
2001	Francis Gardeyn (R, ETHZ/Gent)

2008	Rogier Swierstra (R), Cécile Poirier (R, RuG/Toulouse); Sander Dahmen (R), Giorgio Trentinaglia (R), Alex Boer (E), Camilo Arias Abad (E)
2009	Charlene Kalle (E), Vincent van der Noort (E)
2010	Marco Streng (R, Leiden), Andor Lukacs (E), Jeroen Sijsling (R), Marius de Leeuw (R, UU Physics), Pjotr Negadailov (E)
2011	Dave Carchedi (R), Maarten van de Meent (R, UU Physics), Job Kuit (E), Vadim Gorin (E), Bora Yalkinoglu (E, Paris 8)
2012	Bart van den Dries (E), Timothy Budd (R, UU Physics)
2013	Simen Rustad (R, Oslo), Ionut Marcut (E), Bas Fagginger-Auer (E)
2015	Athanasios Angelakis (R, Leiden), Roberta Iseppi (R, Nijmegen); Enrico Varela (R, Saarbrücken)
2018	Joost Nuiten (E)
2019	Maria Montanucci (R, Salento), Tom van der Zanden (E, UU CS), Ties Laarakker (R), Garnet Akeyr (R, Leiden), Gabriele Dalla Torre (E, Leiden)
2021	Annemiek van Leendert (R, UU FI), Joey van Langen (R, VU Amsterdam)
2022	Sergej Monavari (R)
2023	Josse van Dobben de Bruyn (R, Delft)

Other service to the profession

2007-	Problem author at the Dutch University Mathematics Olympiad (LIMO)
2009-2013	Board of Mathematical Cluster GQT "Geometry and Quantum Theory"
2010	Co-author of research self-assessment of GQT
2009-2011	Director of the Research school "Mathematical Research Institute" (MRI)
2009-2014	Board and steering committee ESF-network "Interaction of low-dimensional Topology and Physics" (ITGP)
2011-2014	(Founding) director Dutch Research Graduate School for Mathematics (WONDER)
2011	Examiner (mathematics) for Unitas' "375 years Utrecht University: Knowledge Game"
2012	Search committee professor of non-commutative geometry at Antwerp
2012	Search committee professor of algebra and number theory at Antwerp
2012	Search committee associate professor at QGM/Aarhus
2012	Committee Update of Dutch Masterplan for Mathematics (NWO)
2012	Committee on "learning outcomes" for Flemish mathematics Bachelors/Masters (VLIR)
2012-	Program committee "Nationale Wiskunde Dagen" (Math Teacher's Event)
2012-2020	Vice-chair of the National committee on Mathematical Research (Platform Mathematics)
	— co-authored policy documents on implementation of Delta/Sectorplan, diversity, grant schemes, …
2013-15;19;22	Selection committee ASML Young Talent Prize for mathematics students
2015	Search committee professor of algebraic geometry at ULB Brussels
2016	Selection committee for the 2017 Brouwer Medal (tri-anual prize of the KWG)
2017	Search committee tenure-track assistant professor at TU Delft
2018-2020	Member of the Mathematics Round Table, advisory committee of NWO Domain Sciences
2018	Selection committee for the Martinus van Marum prize (KHMW)
2019	Keynote on "diversity in hiring", TUDelft EWI Faculty
2019	Speaker and panelist "Fixing the leaky pipeline" at European Women in Mathematics–NL
2020	Invited participant "Cross-disciplinary deliberations on the importance of difference in science", UvA/AMC
2020	Search committee for a faculty position in geometry at VU Amsterdam
2021	Appointment committee for a professorship in geometry at RU Nijmegen

2021	Selection committee for the N.G. de Bruijn prize
2022	External assessor for senior position in pure mathematics at Newcastle (UK)
2022	Appointment committee for a full professor in algebra/discrete mathematics at Göttingen (D)

Service to the university

2002	Curriculum committee for the Bachelor "Mathematics and Applications"
2007-2009	Departmental advisory board
2008	Teaching qualification committee
2007	Chairman advisory committee on the future of the mathematical institute
2009	Chairman committee on efficient teaching (curriculum review)
2009	Search committee for a chair "ICT use in mathematics education"
2009	Co-author and coordinator of the departmental research self-assessment 2003-2008
2010-2013	Advisory committee for grant applications in natural sciences (2012- Chair)
2011	Interdisciplinary "Task force mathematical institute"
2011	Nominator for Tom Ward (UEA) as *F.C. Donders* visiting professor
2011-	Ambassador of natural sciences at Utrecht (faculty reorganization subcommittee)
2011	Co-author departmental strategic plan
2011	Committee on tenure/hiring criteria
2011-	Chair of the Monna Trust committee
2012	Search committee for two full professors
2012	Chair of search committee for one assistant professor
2012	Committee on midterm research evaluation
2013	Chair of search committee for one assistant professor
2013	Chair of assessment committee for a profile chair in Scientific Computing
2013	Faculty project team Gender
2014	Member of search committee for an endowed chair on Public understanding of science
2015	Search committee for two assistant professors/Westerdijk Fellows (ex officio)
2015-2018	Chair of the department of mathematics (mathematical & science education institute)

Major projects initiated or (co-)executed:

— Refurbishment of Library/Discussion rooms for students/staff (outcome: labelled "top-program")

— 6-yearly research evaluation (outcome: highest possible - "excellent" in research, relevance and viability)

— Introduction of an independent management structure for the science education institute

— Introduction of informal lunch meetings & new quarterly colloquium

— Negotiations for university professor appointment in mathematics

— Gender policy; increase in percentage of female research staff from 7% to 15%

— PhD student scan and workshop on PhD supervision (with Elmira Nijhuis and Jason Frank)

2015	Review committee of bachelor curriculum mathematics, with special attention for algebra and modelling
2016	Committee on scientific scan of professors in CS department
2016	Hiring committee for Head of Support, Science Faculty
2016	Search committee for two assistant professors (ex officio)
2016	Review committee of bachelor curriculum mathematics, with special attention for analysis
2017	Organisation of the exhibit "Women in Mathematics throughout Europe" (Sylvie Paycha; Noel Matoff)
2017	Organisation of an interactive interview with Alan Sokal (of "Impostures Intellectuelles") on the relation between natural and social sciences
2018	Initiated a match-making event between female junior and senior staff in the science faculty

2018	Opening the project "Development without borders" of Faculty of Science
2018	Committee review of natural science honours track
2018-20	Running a 'meet the expert'-session in the UU Research Leadership course, on "Creating and maintaining diversity"
2018-	Member of the mathematics curriculum committee
2019	Advisory committee for ERC Consolidator Grant applications
2019-	Member of a pool of mentors for senior faculty members (university-wide)
2019	Hiring committee for a professor in physics
2019	Co-author Sector Plan application (outcome: government sponsored $6\frac{1}{2}$ new positions in the department)
2019	Search committee for several assistant professors
2019	Evaluation committee for a chair in computer science
2019	Promotional video "Master Mathematical Sciences Utrecht University"
2019	Chair of the faculty wide committee on promotion criteria
2019	Figurehead in a campaign for the use of knowledge clips in education (Educate-IT)
2019	Organisation of a movie screening of "The Discrete Charm of Geometry" for students and staff, with director Ekatarina Eremenko (with Joke Daemen)
2020-2021	Faculty-wide promotion committee to professor level H1 (chair)
2021	Advisory committee for faculty positions in logic
2021,22	Open Days Bachelor Mathematics (presenter)
2022	Faculty-wide committee for promotion to full professor (chair)
2022-	University-wide committee for promotion to professor level H1 (chair)
2022	Departmental committee on academic skills in the bachelor
2022	Search committee at the interface of Computer Science, Mathematics and Physics
2022	Pitch on diversity during visit of Technion at Utrecht
2022	Departmental committee on hiring and scouting
2023	Search committee for full professor in Analysis

Peer reviewed books & research articles in refereed journals & refereed conference proceedings

1995   [1] *Sur les zéros des séries d'Eisenstein de poids $q^k - 1$ pour $GL(2, \mathbf{F}_q[T])$,* C. R. Acad. Sci. Paris, **321**, Ser. I (1995) 817-820.

1997   [2] *Drinfeld modular forms of level T*, in: Drinfeld modules, modular schemes and applications (eds. E.-U. Gekeler et al.), pp. 272-281, World Scientific - Singapore, 1997.

[3] *Drinfeld modular forms of weight one*, J. Numb. Th. **67**, nr. 2 (1997), 215-228.

1999   [4] *Stockage diophantien et hypothèse abc généralisée*, C. R. Acad. Sci. Paris, **328**, Ser. I (1999), 3-8.

[5] *Zeros of Eisenstein series, quadratic class numbers and supersingularity for rational function fields,* Math. Ann. **314**, nr. 1 (1999), 175-196.

[6] *Deligne's congruence and supersingular reduction of Drinfeld modules,* Arch. der Math. **72** (1999), 346-353.

2000   [7] (with Karim Zahidi) *Topology of diophantine sets: remarks on Mazur's conjectures,* in: Hilbert's Tenth Problem: Relations with arithmetic and algebraic geometry, Contemp. Math. **270** (2000), 253-260.

2001   [8] (with Fumiharu Kato and Aristides Kontogeorgis) *Discontinuous groups in positive characteristic and automorphisms of Mumford curves,* Math. Ann. **320**, nr. 1 (2001), 55-85 [Correction **376**, nr. 1 (2020), 821-822].

[9] *Two-torsion in the Jacobian of hyperelliptic curves over finite fields,* Arch. der Math. **77** (2001), 241-246 [Loose erratum: **85** (2005), no. 6].

[10] *The 2-primary class group of certain hyperelliptic curves,* J. Numb. Th. **91**, nr. 1 (2001), 174-185.

2003   [11] (with Fumiharu Kato) *Equivariant deformation of Mumford curves and of ordinary curves in positive characteristic,* Duke Math. J. **116**, nr. 3 (2003), 431-470.

[12] (with Fumiharu Kato) *Mumford curves with maximal automorphism group II: Lamé type groups in genus 5-8,* Geom. Dedicata **102** (2003), 127-142.

2004   [13] (with Fumiharu Kato) *Mumford curves with maximal automorphism group,* Proc. A.M.S. **132** (2004), 1937–1941.

2005   [14] (with Fumiharu Kato) *Zur Entartung schwach verzweigter Gruppenoperationen auf Kurven,* J. reine und angew. Math. **589** (2005), 201–236.

[15] (with Karim Zahidi and Thanases Pheidas) *Division-ample sets and the Diophantine problem for rings of integers,* J. Théorie des Nombres de Bordeaux **17** (2005), 727-735.

[16] *Lifting an automorphism to finite characteristic,* Rend. Sem. Mat. Univ. Padova **113** (2005), 137-139.

2006   [17] (with Ariane Mézard) *Relèvements des revêtements de courbes faiblement ramifiés,* Math. Z. **254** (2006), 239-255.

2007   [18] (with Karim Zahidi) *Elliptic divisibility sequences and undecidable problems about rational points,* J. reine und angew. Math. **613** (2007), 1-33.

[19] (with Matilde Marcolli, Kamran Reihani and Alina Vdovina) *Noncommutative geometry on trees and buildings,* in: Traces in Geometry, Number Theory and Quantum Fields (eds. S. Albeverio et. al.), Aspects of Math. **E 38**, pp. 73-98, Vieweg Verlag (2007).

2008   [20] (with Oliver Lorscheid and Matilde Marcolli) *On the K-theory of graph C^*-algebras,* Acta Appl. Math. **102** (2008), no. 1, 57-69.

[21] (with Alexandra Shlapentokh) *Defining the integers in large subrings of number fields using one universal quantifier,* Proc. St.-Petersburg Math. Sem. **358** (2008), 199-223 (special volume: 60th birthday volume for Yuri Matijasevich "Studies in Constructive Mathematics and Mathematical Logic, Part XI", ed. Maxim Vserminov) [= J. Math. Sci. **158** (2009), no. 5, 713-726].

[22] (with Matilde Marcolli) *Zeta functions that hear the shape of a Riemann surface,* J. Geom. Phys. **58** (2008), no. 5, 619-632.

2009   [23] (with Oliver Lorscheid) *Toroidal automorphic forms for certain function fields,* J. Numb. Th. **129** (2009),1456-1463.

[24] (with Jakub Byszewski) *Which weakly ramified group actions admit a universal formal deformation?*, Ann. Inst. Fourier **59** (2009), no. 3, 877-902.

2010   [25] (with Aristides Kontogeorgis and Lotte van der Zalm) *Arithmetic equivalence, the Goss zeta function, and a generalisation,* J. Numb. Th. **130** (2010), no. 4, 1000-1012.

[26] (with Nikolas Akerblom) *A compact codimension two braneworld with precisely one brane,* Phys. Rev. D **81** (2010), 124025 (6pp.).

[27] (with Fumiharu Kato and Aristides Kontogeorgis) *Three examples of the relation between rigid-analytic and algebraic deformation parameters,* Israel J. Math. **180** (2010), 345-370.

2011   [28] (with Nikolas Akerblom, Gerben Stavenga and Jan-Willem van Holten) *Nonrelativistic Chern-Simons vortices on the torus,* J. Math. Phys. **52** (2011), 072901 (17 pp.).

[29] (with Nikolas Akerblom) *Relative entropy as a measure of inhomogeneity in general relativity,* J. Math. Phys. **53** (2012), 012502 (10 pp.).

2012   [30] (with Jakub Byszewski and Fumiharu Kato) *Un anneau de déformation universel en conducteur supérieur,* Proc. Japan Acad. Sci., Ser. A, Math. Sci. **88** (2012), nr. 2, 25-27.

[31] (with Oliver Lorscheid) *Toroidal automorphic forms, Waldspurger periods and double Dirichlet series,* in: Multiple Dirichlet Series, L-functions and Automorphic Forms, Progress in Math. **300**, Birkhäuser (2012), pp. 131-146.

[32] (with Jan Willem de Jong) *The spectral length of a map between Riemannian manifolds,* J. Noncommut. Geom. **6** (2012), 721-748.

[33] (with Jonathan Reynolds) *Matrix divisibility sequences,* Acta Arith. **156** (2012), 177-188.

2013   [34] (with Janne Kool) *Measure theoretic rigidity for Mumford curves,* Ergodic Th. Dyn. Syst. **33**, nr. 3 (2013), 851-869.

[35] (with Matilde Marcolli) *Graph reconstruction and quantum statistical mechanics*, J. Geom. Phys. **72** (2013), 110-117.

[36] *Curves, dynamical systems, and weighted point counting*, Proc. Natl. Acad. Sci. USA **110**, no. 24 (2013), 9669-9673.

2014   [37] (with Matilde Marcolli) *Quantum statistical mechanics, L-series and anabelian geometry I: Partition Functions*, in: Trends in Contemporary Mathematics, INdAM Series, Vol. 8 (2014), 47-57, Springer Verlag.

2015   [38] (with Fumiharu Kato and Janne Kool) *A combinatorial Li-Yau inequality and rational points on curves*, Math. Ann. **361**, no. 1 (2015), 211-258.

2016   [39] (with Jonathan Reynolds) *The perfect power problem for elliptic curves over function fields*, New York J. Math. **22**, 95–114 (2016).

2017   [40] (with Aristides Kontogeorgis) *Distances in spaces of physical models: partition functions versus spectra*, Lett. Math. Phys. **107**, Issue 1, 129–144 (2017).

       [41] (with Valentijn Karemaker) *Hecke algebra isomorphism and adelic points on algebraic groups*, Doc. Math. **22**, 851–871 (2017).

2018   [41] (with Janne Kool) *Edge reconstruction of the Ihara zeta function*, Electron. J. Combin. **25**, Issue 2, Paper #P2.26, 22pp. (2018).

       [42a] (with Jelco M. Bodewes, Hans L. Bodlaender and Marieke van der Wegen) *Recognizing hyperelliptic graphs in polynomial time*, in: Graph-Theoretic Concepts in Computer Science, 44th International Workshop, WG 2018, Cottbus, Germany, Proceedings (Eds. A. Brandstädt, E. Köhler and K. Meer), Springer Lecture Notes in Computer Science, vol. 11159, pp. 52–64 (2018); extended abstract of [42b] [Best Student Paper Award for Bodewes and van der Wegen].

       [43] (with Jakub Byszewski) *Dynamics on abelian varieties in positive characteristic* (with an appendix by Robert Royals and Thomas Ward), Algebra Number Theory **12**, no. 9 (2018), 2185–2235.

2019   [44] (with Bart de Smit, Xin Li, Matilde Marcolli and Harry Smit) *Characterization of global fields by Dirichlet L-series*, Res. Number Theory **5**:7, 15 pp. (2019).

       [45] (with Xin Li, Matilde Marcolli and Harry Smit) *Reconstructing global fields from dynamics in the abelianized Galois group*, Selecta Math. **25**:24, 18 pp. (2019).

       [46] (with Janne Kool) *Rigidity and reconstruction for graphs*, J. Fractal Geom. **6**, Issue 3, 247–262 (2019).

2020   [47] (with Jakub Byszewski and Marc Houben) *Dynamically affine maps in positive characteristic* (with an appendix by the authors and Lois van der Meijden), Contemp. Math. **744** ("Dynamics: Topology and Numbers"; Eds. P. Moree, A. Pohl, L. Snoha, and T.B. Ward), pp. 125–156, 2020.

       [42b] (with Jelco M. Bodewes, Hans L. Bodlaender and Marieke van der Wegen) *Recognizing hyperelliptic graphs in polynomial time*, Theoret. Comput. Sci. **815**, 121–146 (2020); full version of [42a].

2022   [48] (with Jakub Byszewski and Djurre Tijsma) *Elements of finite order in the Nottingham group and automata*, J. Alg. **602**, 484–554 (2022).

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