

## Curriculum Vitae

### Ph. MICHEL

Born Jan. 23 1969 in Lyon (France)

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### Education.

- 1998: Habilitation, Université Paris-Sud.
- Jan. 13, 1995: Doctorat de Mathématiques Pures, Université Paris-Sud (advisor E. Fouvry.)
- 1994-1995: Military Service, 99ème Régiment d'Infanterie.
- 1989-93: ENS Cachan.

### Employment History.

- 2008- : Professeur Ordinaire, École Polytechnique Fédérale de Lausanne.
- 1998-08: Professeur, Université Montpellier II. Promoted to the rank of Prof. 1ère classe in 2003.
- 1999-00: Member, Institute for Advanced Studies, Princeton.
- 1995-98: Maître de Conférences, Université Paris-Sud.

### Internal administrative services (at EPFL only).

- 2023- : Member of the Math Doctoral School (EDMA) committee.
- 2022- : Member of the Executive committee of the Bernoulli Center for Fundamental Studies.
- Member of the promotion committee of the School of Basic Sciences.
- 2016-20 Member of the Executive Committee of the Institute of Mathematics.
- Chair of the Math Hiring committee at EPFL: 2010-2017, 2018.
- Member of the Direction of the School of Basic Sciences: 2014-2018.
- Math Master Admission Committee: 2015-2017.
- PhD thesis award committee: 2017- .
- Math Doctoral School committee: 2008-2010.

### External Boards, Committees, Evaluation (from 2008 only).

- April 2024: Selection committee of the senior members for the Institut Universitaire de France.
- April 2023: Selection committee of the senior members for the Institut Universitaire de France.
- 2020-2021: Chair of the Number Theory Panel for the 2022 International Congress of Mathematicians.
- 2022-24: Foreign member of the scientific committee of the Marie Skłodowska-Curie fellowship program "MathInGreaterParis".
- 2020-21: Member of the national committee auditing Mathematics in France (HCERES).
- 2020- : Chair of the Mathematics Section, Academia Europaea.
- 2019- : Scientific Board of the Fondation Mathématique Jacques Hadamard (FMJH).
- 2016-2023: Scientific Board of the Mathematisches Forschungsinstitut Oberwolfach (MFO).
- 2018/19: Member of the committee evaluating the quality of teaching in mathematics in the State of Vaud.
- 2016: Chair of the program committee of the 30th Journées Arithmétiques.

- ERC Starting Grants PE1 panel member (2012, 2014, 2016, 2018) and external evaluator during the odd years.
- External Hiring committees: ETHZ (2012,2015,2017), Grenoble (2013), Univ. Paris Saclay (2019).
- Selection Committee of the Institut Universitaire de France (2013, 2014)
- 2014-20: Member of the committee of the Mathematics Section, Academia Europaea.
- AERES Evaluation committee: Math. Dept. of Université de Caen (2010), Metz and Nancy (2008)
- Remote evaluator for research projects for various scientific agencies (AERES, EC Marie Curie, EP-SRC, ERC, FWF, ISF, NSF, RGC, SNF); for tenured professorship at various international universities (especially US); various mathematical prizes of varying importance.

#### Editorial Boards.

- Ramanujan Journ. Math. (2020– ), Journal Europ. Math. Soc. (2015– ), Mathematische Zeitschrift (2013– ), Algebra & Number Theory (2011– ), Journal of Number Theory (2007– ), Archiv des Mathematik( 2004– ), Publications Mathématiques de l’IHES (2015-2019), Journal de Théorie des Nombres de Bordeaux (2006-14), International Journal of Number Theory (2004-07).

#### Mentoring.

- PhD Students: F. Berta (2022– ), S. zur Verth (2021– ), V. Nadarajan (2018-23), R. Zacharias (2016-19), A. Peyrot (2012-16), D. Wuersch (2012-16), X. Ping (2012-14), H. Wu (2009-12), N. Templier (2005-08), B. Louvel -with S. J. Patterson- (2004-08), D. Trotabas (2004-07), G. Ricotta (2001-04), E. Royer -with E. Fouvry- (1998-01).
- Post-doc: Petru Constantinescu (2022– ),A. Forey (2021-23), M. Luethi (2021- ), C. Raju (2019-22), Y. Lin (2018-2022), B. Topacogullari (2016- 20), G. Micheli (2018-19), R. Moreira Nunes (2015- 19), P. Leboudec (2013-16), I. Petrow (2013-17), M. Akka (2012-14), P. Nelson (2011-14), N. Walji (2011-14), U. Shapira (2010-12), R. Richard (2009-13), T. Zamojski (2010-12), J. Van Order (2009-13), R. Menares (2008-10), R. Rhoades (2008-09), A. Perrucca (2008-10), M. Cossutta (2009-10), F. Brumley.

#### Teaching.

- Every university levels, for mathematics and engineering students; lecture in various doctoral international summer/winter schools.

#### Grants (since 2008).

- 2021-2026: SFNS Grant 200021-197045 “Congruences in modern analytic number theory“
- 2018-2021: Lead Agency SFNS Grant 200021L-175755 (with E. Kowalski, V. Blomer, J. Bruedern , U. Derenthal) ”Geometric and Analytic Number Theory”
- 2014-17: Lead Agency SFNS Grant 200021L-153647 (with E. Kowalski, V. Blomer, J. Bruedern , E. Viada) ”Geometric and Analytic Number Theory”
- 2012-16: SFNS Grant 200021-137488 ”Theta-correspondence and analytic number theory”
- 2009-12: SFNS Grant 200021-125291 ”Moments of  $L$ -functions, subconvexity and applications.”
- 2009-14: European Research Council, Advanced Research Grant, ”EQUIARITH”.

#### Distinctions.

- 2022 (Spring semester): Olga Tausky-Todd distinguished visitor, Caltech.
- 2018: Olga Tausky-Todd distinguished visitor, Caltech.
- 2017: Simons Professor MSRI Berkeley.
- 2012: Fellow of the Amer. Math. Soc.
- 2011: Elected Member of the Academia Europaea (Academy of Europe).
- 2009: Nachdiplom lectures, ETHZ.
- 2009-14: ERC Advanced Grant.
- 2006: Invited speaker (Number Theory section), ICM Madrid.

- 2006: Hahn Lectures, Yale University.
- 1999-04: Member of Institut Universitaire de France.
- 1999: Prix PECCOT-VIMONT, Collège de France.
- 1999: Cours PECCOT, Collège de France.

#### Organization of scientific programs and Conferences.

- Spring 2024: Hausdorff spring school, *Recent developments around joint equidistribution in number theory and dynamics*. Hausdorff Institute, Bonn.
- Jan. 2024: AIM Workshop, *Analytic, Arithmetic and Geometric Aspects of Automorphic Forms*, Caltech (with A. Burungale, M. Dimitrov and C. Skinner).
- Dec. 2022: Workshop *Crosscurrents in Number theory, Analysis and Geometry 2022*, Univ. Paris XIII (with V. Blomer and F. Brumley).
- Each year since 2008: *Number Theory Days* a yearly workshop whose organization alternates between EPF Lausanne and ETH Zuerich and (since 2017) Univ. Basel since 2017 (currently joint with Ph. Habegger and O. Immamoglu).
- Aug. 2020: *Automorphic Forms and Arithmetic*, Oberwolfach (with V. Blomer, E. Kowalski and M. Viazovska)
- January 2019: Monte Verita Winter School *On trace functions*, Centro S. Franscini (with E. Kowalski).
- Nov 2018: *Geometric and Analytic Number Theory*, Goettingen (with V. Blomer, J. Bruedern, U. Derenthal and E. Kowalski).
- Jul-Dec 2017: *Euler Systems and Special Values of L-functions* Semester Program, Centre Bernoulli, EPFL (with H. Darmon, D. Jetchev and C. Skinner).
- Sept. 2017: Oberwolfach meeting *Automorphic forms and Arithmetic* (with V. Blomer and E. Kowalski).
- Jan-May 2017: *Analytic Number Theory* Semester Program at MSRI (with C. David, A. Granville, E. Kowalski, K. Soundararajan and T. Tao).
- May 2015: *Analytic Aspects of Number Theory*, ETHZ (with H. Iwaniec and E. Kowalski).
- July 2014: *Summer School on Analytic Number Theory* IHES, Bures/Yvette (with E. Kowalski).
- May 2014: Monte Verita *conference on cryptology*, Centro S. Franscini (with D. Jetchev, E. Kowalski, A. Lenstra and J. Rosenthal).
- Feb. 2014: *Conference Automorphic Forms and Arithmetic*, Universitaet Goettingen (with V. Blomer and E. Kowalski).
- Jun 2013: *E. Fouvry 60th birthday conference*, CIRM (with R. de la Bretèche, E. Kowalski and J. Rivat).
- March 2013: *Equidistribution in Number Theory and Dynamics*, ETHZ (with M. Einsiedler, E. Kowalski and E. Lindenstrauss).
- Jun 2011: *Eva Bayer 60th birthday conference*, EPFL.
- Jan-Jun 2011: *Group Actions in Analytic Number Theory* Semester Program, Centre Bernoulli, EPFL (with E. Kowalski).
- June 2009: *Equidistribution of Finite Volume Orbits on  $\Gamma \backslash G$* , Oberwolfach Seminar (with E. Lindenstrauss and M. Einsiedler).

#### Seminars, Colloquia & Invited Lectures.

- Jan. 2024: AIM Workshop, Analytic, arithmetic, and geometric aspects of automorphic forms, Caltech.
- January 2023: Number Theory Seminar, Caltech.
- Oct. 2023: AIM Workshop, Delta symbols and the subconvexity problem, Caltech.
- Sept. 2023: Workshop on Automorphic Forms and  $L$ -functions of higher rank, Queen Mary University of London.
- May 2023: Oberwolfach workshop Group Actions and Harmonic Analysis in Number Theory.
- April 2023: Number Theory Seminar, Caltech.
- April 2023: Students lectures U. Neuchatel (on the work of J. Maynard).
- Oct 2022: Around Frobenius Distributions and Related Topics III, online workshop.
- June 2022: Seminaire Bourbaki, Paris.
- June 2022: Number Theory Seminar, Caltech.
- May 2022: Tausky-Todd Lecture, Caltech.

April 2022: Berkeley-Caltech-Stanford Joint Number Theory Seminar  
 December 2021: Ramanujan Sastra prize conference (in honour of the 2021 Ramanujan Sastra prize of Will Sawin).  
 Novembre 2021: Graduate school lectures, Renyi Institute, Budapest.  
 June-July 2021: Trimester program "Harmonic Analysis and Analytic Number Theory", Hausdorff Institut, Bonn.  
 Jan.-Feb. 2021: Research program in Number Theory, Institut Mittag-Leffler, Stockholm.  
 Aug. 2020: "Automorphic Forms and Arithmetic", Oberwolfach.  
 June 2020: AIM workshop "Delta symbols and the subconvexity problem", San Jose.  
 Jan.2020: Hausdorff Kolloquium, Bonn.  
 Jan. 2020: Hausdorff trimester program "Dynamics: Topology and Numbers", Bonn.  
 Nov. 2019: Heilbronn Seminar, Bristol.  
 Oct. 2019: Clay Research Conference "Periods, Representations, and Arithmetic", Oxford.  
 July 2019: Symposium in Analytic Number Theory, Cetraro.  
 June 2019: W. Duke 61th Birthday conference, ETH Zuerich.  
 Apr. 2019: "Analytic Aspects of Automorphic forms", Lille.  
 Feb. 2019: Linde Hall Inaugural Math Symposium, Caltech.  
 Jan. 2019: Number Theory Seminar, Caltech.  
 Oct. 2018: SMS Fields medals Days (presentation of the work of P. Scholze), Bern.  
 Aug. 2018: Number Theory seminar, Xi'an Jiaotong University.  
 June 2018: Plenary lecture, Congrès Biennal de la Société Mathématiques de France, Lille.  
 July 2017: Workshop "Aspects of Automorphic Forms and Applications", Hong-Kong.  
 June 2017: London-Paris Number Theory seminar, London.  
 May 2017: Don Zagier 65th birthday conference, Bonn.  
 Apr. 2017: UC San Diego Number Theory Seminar.  
 Feb. 2017: BC-MIT Number Theory seminar, Boston.  
 Jan. 2017: Bay Area Algebraic Number Theory and Arithmetic Geometry Day (BAANTAG) 2017.  
 Dec. 2016: Séminaire de Théorie des Nombres de l'Institut Fourier, Grenoble.  
 Nov. 2016: Workshop "Spectral Theory, Automorphic Forms and Arithmetic", Copenhagen.  
 June 2016: Juerg Kramer 60th birthday conference, Berlin.  
 Feb. 2016: Workshop "Groups, Orbits and Diophantine Approximation", International Center Goa.  
 Jan. 2016: Berlin Mathematical School Colloquium, Berlin.  
 Oct. 2015: Seminar, Renyi Institute, Budapest.  
 Apr. 2015: Number Theory Seminar, ETHZ.  
 Apr. 2015: Heilbronn seminar, Bristol.  
 Jan. 2015: Stanford Number Theory Seminar, Palo Alto.  
 Dec. 2014: Peter Sarnak 61th birthday conference, Princeton.  
 June 2014: Séminaire d'Arithmétique et de Géométrie Algébrique d'Orsay.  
 Dec. 2013: 17th Midrasa Mathematica "L-functions, spectra and equidistribution", IAS Jerusalem.  
 Nov. 2013: Séminaire de théorie des nombres de l'Institut Mathématique de Jussieu.  
 Oct. 2013, Colloquium Univ. Zuerich.  
 July 2013, Special lecture series, Caltech, Pasadena.  
 June 2013, 25th years of Number Theory (G. Wuestholz 65th birthday conference), ETHZ.  
 Feb 2013, Stanford Number Theory Seminar, Palo Alto.  
 Dec. 2012, Colloquium, Université de Genève.  
 Sept. 2012: D.-R. Heath-Brown 60th Birthday conference, Oxford.  
 May-June 2012: Lecture series, CEU, Budapest.  
 May 2012: Seminar, Renyi Institute, Budapest.  
 March 2012: Number Theory seminar, HUJ, Jerusalem.  
 Feb. 2012: Colloquium, Univ. Clermont-Ferrand.  
 Feb. 2012: Heilbronn seminar, Bristol.  
 Jan 2012: International colloquium, TIFR, Mumbai.  
 Nov. 2011: Workshop ESI, Vienna.  
 Sept 2011: Dynamics on Homogeneous Spaces and Number Theory Conference, OSU, Columbus.  
 Aug 2011: Workshop MFO, Oberwolfach.  
 Jan. 2010: Colloquium, Univ. Tuebingen.

Oct. 2009: Lecture, Journées de la Société Mathématique Suisse, Porrentruy.  
 Oct. 2009: Colloquium, Univ. Fribourg.  
 Sept-Dec 2009: Nachdiplomvorlesung, 14 weeks lecture series, ETH Zuerich.  
 Apr. 2009, Colloquium, Université de Genève.  
 Feb. 2009, Southern California Number Theory Day, Caltech, Pasadena.  
 January 2009: Joint IAS/PU number theory Seminar, Inst. Adv. Studies, Princeton.  
 January 2009: Stanford Number theory seminar, Palo Alto.  
 September 2008: Number theory seminar ETH Zuerich.  
 May 2008: Séminaire "Formes Automorphes" du Chevaleret, Université Paris VII.  
 May 2008: "Analytic number theory in higher rank", Courant Institute, New York.  
 March 2008: Workshop "Analytic number theory", Oberwolfach.  
 Feb. 2008: Colloquium, Univ. Neuchatel.  
 December 2007: Colloquium, Université Clermont-Ferrand.  
 June 2007: Caltech Number theory seminar, Pasadena.  
 May 2007: "L-functions and Automorphic forms" for D. Goldfeld's 60th birthday, Columbia University.  
 April 2007: Esnault-Viehweg Oberseminar, Univ. Essen.  
 January 2007: Séminaire de Théorie des Nombres du Chevaleret.  
 Sept. 2006: International Arithmetic Algebraic Geometry conference, Madrid.  
 Août 2006: ICM Madrid.  
 May 2006: Séminaire ENS Lyon.  
 Apr. 2006: Hahn Lectures, Yale University.  
 Apr. 2006: Number Theory Days, ETH. Zürich.  
 March 2006: Séminaire de Géométrie Algébrique, Univ. Rennes 1.  
 Jan. 2006: Stanford Math. Colloquium, Palo Alto.  
 Nov. 2005: Colloquium, EPF Lausanne.  
 June 2005: Gauss/Dirichlet conference (for the 150-th anniversary of C. F. Gauss's death and the 200-th anniversary of P. L. Dirichlet's birth), Goettingen.  
 March 2005: Séminaire de Théorie des Nombres de Paris VI-VII au Chevaleret.  
 January 2005: Automorphic form Seminar, Osaka City University, Osaka.  
 December 2004: Joint Columbia/CUNY/NYU Number Theory Seminar, New York.  
 October 2004: Séminaire de théorie des Nombres, EPFL, Lausanne.  
 March 2004: Séminaire de théorie Analytique des Nombres, IHP, Paris.  
 Feb. 2004: Colloquium "Deutsch-Französischer Diskurs", Université de Saarbruecken.  
 Dec. 2003: "Arithmetic Geometry and Number Theory", N. M. Katz's 60th birthday, Princeton University.  
 January 2003: Séminaire de Théorie des Nombres de Paris VI-VII au Chevaleret.  
 December 2002: Séminaire de théorie Analytique des Nombres, IHP, Paris.  
 November 2002: Number Theory Seminar, Courant Institute, New York.  
 November 2002: IAS/Princeton Number Theory seminar.  
 June 2002: Seminar on Number Theory, CalTech, Pasadena.  
 May 2002: Séminaire de Géométrie Arithmétique, IRMA, Strasbourg.  
 Février 2002: Séminaire "Formes Automorphes" du Chevaleret, Université Paris VII.  
 May 2002: "Zeta-Functions and Associated Riemann Hypotheses", Courant Institute NYU, New York.  
 Février 2002: Séminaire d' Arithmétique et de Géométrie Algébrique d' Orsay.  
 Jul. 2001: Plenary lecture. Journées Arithmétiques 2001, Lille.  
 June 2001: Journées de la Société Mathématique Suisse, Neuchâtel.  
 March 2001: Séminaire BOURBAKI.  
 Jan. 2001: Colloquium, Université Lyon 1.  
 April 2001: Seminar on Number Theory, CalTech, Pasadena.  
 January 2001: Séminaire de théorie Analytique des Nombres, IHP, Paris.  
 October 2000: Seminar of Number Theory, Ohio State University, Columbus.  
 Apr. 2000: "Recent Trends in Analytic Number Theory", Institute for Advanced Studies, Princeton.  
 December 1999: Automorphic Forms and  $L$ -functions seminar, Institute for Advanced Studies, Princeton.  
 December 1999: Seminar on Arithmetic Geometry and Number Theory, CUNY, New York.

November 1999: Seminar of Number Theory, Columbia University, New York.  
 April 1999: Seminar on Number Theory, Mathematical Institute, Oxford University.  
 March 1999: Cours Peccot, Collège de France.  
 October 1998: Colloquium et Séminaire d'Algèbre et Géométrie, Université Montpellier II.  
 April 1998: Seminar on Number Theory and Harmonic Analysis IAS-Princeton-Rutgers, Princeton.  
 April 1998: Séminaire de Théorie des Nombres de Institut Fourier, Grenoble.  
 March 1998: Séminaire BOURBAKI.  
 February 1998: Séminaire de Théorie des nombres de Bordeaux.  
 February 1998: Séminaire de Théorie des Nombres de Paris VI-VII.  
 January 1998: Séminaire de Géométrie Arithmétique de Rennes.  
 December 1997: Séminaire de Théorie des Nombres de Nancy.  
 April 1997: Séminaire d'Arithmétique et de Géométrie Algébrique. d'Orsay.  
 May 1996: Séminaire de Théorie des nombres de Bordeaux.  
 Jul. 1997: International conférence in number theory, A. Schinzel's 60-th birthday, Zakopane.  
 Février 1996: Séminaire de Théorie des Nombres de Paris VI-VII  
 April 1995: Séminaire de Théorie des Nombres de Institut Fourier, Grenoble.  
 March 1995: Séminaire d'Arithmétique et de Géométrie Algébrique. d'Orsay.

*Lecture series.*

Jan. 2019: Winter School, "Trace functions and their applications", Congressi S. Franscini, Ascona, 4 Lectures.  
 June 2018: Hausdorff School: L-functions: Open Problems and Current Methods, 4 Lectures.  
 February 2017: MSRI semester program in Analytic number Theory, Introductory Workshop, 4 Lectures.  
 March 2016: Arizona Winter School, 4 lectures + students projects.  
 July 2015: Santaló Summer School, Santander, 4 lectures.  
 Sept-Dec 2009: Nachdiplomvorlesung, 14 weeks lecture series, ETH Zuerich.  
 June 2009: Pfingsttermin Oberwolfach Seminar, Oberwolfach, 5 lectures.  
 May 2008: "Analytic number theory in higher rank", Courant Institute, 3 lectures.  
 April 2007: Spring school "Analytic Number Theory", ICTP, 3 lectures.  
 Aug. 2005: Summer school "Analytic number theory and automorphic forms", Hangzhou, 3 lectures.  
 June 2005: "rencontres du troisième cycle", Université Bordeaux I, 2 lectures.  
 April 2004: Newton Institute school "Random matrix theory and Number Theory", Newton Institute, Cambridge, 4 lectures.  
 July 2002: IAS/PCMI Graduate Summer School, Park City, 5 lectures.  
 January 2001: ENS Paris, 4 lectures.  
 December 2000: SMF "États de la Recherche en Théorie Analytique des Nombres" à Bordeaux, 3 lectures.  
 June 2000: Colloque Jeunes chercheurs en Théorie des nombres, Bordeaux, 3 lectures.  
 March 1999: Collège de France: Cours Peccot, 8 lectures.

## Publications

Research papers are available in .pdf format from  
[https://arxiv.org/a/michel\\_p\\_1](https://arxiv.org/a/michel_p_1)  
[https://www.researchgate.net/profile/Ph.\\_Michel4](https://www.researchgate.net/profile/Ph._Michel4)

## Preprints

- [MRY23] Ph. Michel, D. Ramakrishnan, and L. Yang, *Bessel Periods on  $U(2, 1) \times U(1, 1)$ , Relative Trace Formula and Non-Vanishing of Central  $L$ -values* (2023), 153 pages. arXiv:2309.08490v2.
- [FKM23] É. Fouvry, E. Kowalski, and Ph. Michel, *Toroidal families and averages of  $L$ -functions, I* (2023), 28 pages. arXiv:2303.11664v1.
- [MNH22] Ph. Michel, P. Nelson, and Y. Hu, *The subconvexity problem for Rankin-Selberg and triple product  $L$ -functions* (2022), 60 pages. <https://doi.org/10.48550/arXiv.2207.14449>.

## PUBLISHED OR ACCEPTED FOR PUBLICATION

- [LM23] Y. Lin and Ph. Michel, *On algebraic twists with composite moduli*, **The Ramanujan Journal**, posted on 2023, 35 pages, DOI <https://doi.org/10.1007/s11139-023-00789-z>. (dedicated to the memory of Chandra Raju), arXiv:2304.08149v1.
- [BM23] V. Blomer and Ph. Michel, *The unipotent mixing conjecture*, **Journal d'Analyse Mathématique** (2023), 24 pages. Special volume in honor of Peter Sarnak (to appear), arXiv:2305.02287v1.
- [KLM23] E. Kowalski, Y. Lin, and P. Michel, *Rankin-Selberg coefficients in large arithmetic progressions*, *Sci. China Math.* **66** (2023), no. 12, 2767–2778, DOI 10.1007/s11425-023-2155-6. arXiv:2304.08231v1. MR4670149
- [LMS23] Y. Lin, Ph. Michel, and W. Sawin, *Algebraic twists of  $GL_3 \times GL_2$   $L$ -functions*, **Amer. Journ. Math.** **145** (2023), no. 2, 585–645. arxiv:1912.09473.
- [BFK<sup>+</sup>23] V. Blomer, É. Fouvry, E. Kowalski, Ph. Michel, D. Milićević, and W. Sawin, *The second moment theory of families of  $L$ -functions—the case of twisted Hecke  $L$ -functions*, **Mem. Amer. Math. Soc.** **282** (2023), no. 1394, v+148, DOI 10.1090/memo/1394. arXiv:1804.01450.
- [ALMW22] M. Aka, M. Luethi, Ph. Michel, and A. Wieser, *Simultaneous supersingular reductions of CM elliptic curves*, **J. Reine Angew. Math.** **786** (2022), 1–43, DOI 10.1515/crelle-2021-0086. arXiv:2005.01537.
- [Mic21] Ph. Michel, *Some recent advances on Duke's equidistribution theorems*, *Nine mathematical challenges—an elucidation*, *Proc. Sympos. Pure Math.*, vol. 104, Amer. Math. Soc., Providence, RI, 2021, pp. 107–132, DOI 10.1090/pspum/104/01873.
- [FKM21] É. Fouvry, E. Kowalski, and Ph. Michel, *On the conductor of cohomological transforms*, **Ann. Fac. Sci. Toulouse Math.** (6) **30** (2021), no. 1, 203–254, DOI 10.5802/afst.1671. arXiv:1310.3603.
- [KMS20] E. Kowalski, Ph. Michel, and W. Sawin, *Stratification and averaging for exponential sums: bilinear forms with generalized Kloosterman sums*, **Ann. Scu. Norm. Sup. Pisa XXI** (2020), 1453–1530, DOI 10.2422/2036-2145.201805.002. arXiv:1802.09849.
- [KLMS20] E. Kowalski, Y. Lin, Ph. Michel, and W. Sawin, *Periodic twists of  $GL_3$ -automorphic forms*, **Forum Math. Sigma** **8** (2020), Paper No. e15, 39, DOI 10.1017/fms.2020.7. arXiv:1905.05080.
- [Mic19] Ph. Michel, *Quelques applications de la cohomologie étale en théorie analytique des nombres*, **Séminaires & Congrès SMF, (to appear)** (2019), 165–196. Actes du 2ème congrès national de la Société Mathématique de France.
- [FKMS19] É. Fouvry, E. Kowalski, Ph. Michel, and W. Sawin, *Lectures on applied  $\ell$ -adic cohomology*, *Analytic methods in arithmetic geometry*, **Contemp. Math.**, vol. 740, Amer. Math. Soc., [Providence], RI, 2019, pp. 113–195, DOI 10.1090/conm/740/14903. arXiv:1712.03173.
- [KMS17] E. Kowalski, Ph. Michel, and W. Sawin, *Bilinear forms with Kloosterman sums and applications*, **Annals of Math.** (2) **186** (2017), no. 2, 413–500, DOI 10.4007/annals.2017.186.2.2. arXiv:1511.01636.
- [FKMM17] É. Fouvry, E. Kowalski, Ph. Michel, and D. Milićević, *On moments of twisted  $L$ -functions*, **Amer. Journ. Math.** **139** (2017), no. 3, 707–768, DOI 10.1353/ajm.2017.0019. arXiv:1411.4467.
- [BFK<sup>+</sup>17] V. Blomer, É. Fouvry, E. Kowalski, F. Michel, and D. Milićević, *Some applications of smooth bilinear forms with Kloosterman sums*, **Tr. Mat. Inst. Steklova** **296** (2017), no. Analiticheskaya i Kombinatornaya Teoriya Chisel, 24–35, DOI 10.1134/S0371968517010022 (Russian, with Russian summary). (special issue for the 125th anniversary of I. M. Vinogradov) arXiv:1604.07664.
- [FKM<sup>+</sup>17] É. Fouvry, E. Kowalski, Ph. Michel, C. S. Raju, J. Rivat, and K. Soundararajan, *On short sums of trace functions*, **Ann. Inst. Fourier (Grenoble)** **167** (2017), no. 1, 423–449. arxiv:1508.00512.

- [FKM15a] É. Fouvry, E. Kowalski, and Ph. Michel, *Algebraic twists of modular forms and Hecke orbits*, **GAGA** **25** (2015), no. 2, 580-657. [arXiv:1207.0617](#).
- [FKM15b] É. Fouvry, E. Kowalski, and Ph. Michel, *A study in sums of products*, **Phil. Trans. of the Royal Society A** **373** (2015). [arXiv:1304.3199](#).
- [FKM15c] É. Fouvry, E. Kowalski, and Ph. Michel, *On the exponent of distribution of the ternary divisor function*, **Mathematika** **61** (2015), no. 1, 121-144. [arXiv:1304.3199](#).
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