

# Curriculum Vitae

Sary Drappeau

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French nationality

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## Degrees

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- **Ph.D.** in Mathematics

*Université Paris-Diderot, viva : November 19, 2013.*

*Dissertation : Entiers friables en progressions arithmétiques, et applications.*

*Supervisor : Régis de la Bretèche*

- **Master's degree** in Fundamental Mathematics

*Université Paris Diderot (September 2010).*

*Mention : Très bien*

- **Agrégation externe** (Teaching degree) in Mathematics

*Académie de Paris-Versailles. Rank : 36*

- **Bachelor's degree** in Mathematics

*Université Paris-Sud (September 2008).*

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## Employment

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**from Sep. 2015** : Assistant professor, Aix-Marseille Université (France).

**Jan. 2014 – Jul. 2015** : CRM-ISM Post-doctoral fellowship, Université de Montréal (Canada).

**Sep. 2011 – Dec. 2013** : Ph.D. Fellowship, École Normale Supérieure.

Teaching assistant at Université Paris-Diderot.

**Oct. 2009 – Feb. 2010** : Academic visitor at University of Bristol (United Kingdom).

**Sep. 2007 – Aug. 2011** : Student fellowship at École Normale Supérieure Ulm, Paris (France).

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## Research

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### Published :

- “A modular analogue of a problem of Vinogradov” (with R. Acharya, S. Ganguly, O. Ramaré), *Ramanujan J.*, to appear.
- “One-level density estimates for Dirichlet  $L$ -functions with extended support” (with K. Pratt and M. Radziwiłł), *Algebra Number Theory*, to appear.
- “Limit laws for rational continued fractions and value distribution of quantum modular forms” (with S. Bettin), *Proc. London Math. Soc.*, to appear.
- “Modularity and value distribution of quantum invariants of hyperbolic knots” (with S. Bettin), *Math. Ann.*, **382** (2022), no. 3-4, pp. 1631–1679.
- “Effective estimation of some oscillatory integrals related to infinitely divisible distributions” (with S. Bettin), *Ramanujan J.*, **57** (2022), 849-861.
- “Two arithmetic applications of perturbations of composition operators” (with S. Bettin), *J. Anal. Math.*, **144** (2021), 335-349.
- “The first moment of primes in arithmetic progressions: beyond the Siegel-Walfisz range” (with D. Fiorilli), *Trans. London Math. Soc.*, **8** (2021), no. 1, 174-185.
- “The Thue-Morse and Rudin-Shapiro sequences at primes in principal number fields” (with G. Hanna), *Acta Math. Hung.*, **162** (2020), no. 1, 130-186.
- “Partial sums of the cotangent function” (with S. Bettin), *J. Thér. Nombres Bordeaux*, **32** (2020), no. 1, 217-230.
- “Niveau de répartition des polynômes quadratiques et crible majorant pour les entiers friables” (with R. de la Bretèche), *J. Eur. Math. Soc.*, **22** (2020), no. 5, 1577-1624.
- “Combinatorial identities and Titchmarsh’s divisor problem for multiplicative functions” (with B. Topalogullari), *Algebra Number Theory*, **13-10** (2019), 2383-2425.
- “Statistical distribution of the Stern sequence” (with S. Bettin and L. Spiegelhofer), *Comment. Math. Helv.*, **94** (2019), no. 2, pp. 241-271.
- “Sign changes of Kloosterman sums and exceptional characters” (with J. Maynard), *Proc. Amer. Math. Soc.*, **147** (2018), 77-90.
- “Exponential sums with automatic sequences” (with C. Müllner), *Acta Arith.*, **185** (2018), 81-99.
- “Lois de répartition des diviseurs des entiers friables” (with G. Tenenbaum), *Math. Z.*, **288** (2018), vol. 3-4, pp. 1299-1326.
- “Smooth-supported multiplicative functions in arithmetic progressions beyond the  $x^{1/2}$ -barrier” (with A. Granville and X. Shao), *Mathematika*, **63** (2017), vol. 3, pp. 895-918.
- “Sums of Kloosterman sums in arithmetic progressions, and the error term in the dispersion method”, *Proc. London Math. Soc.*, **114** (2017), vol. 4, pp. 684-732.

- “On the average distribution of divisors of friable numbers”, *Int. J. Number Theory*, **13** (2017), vol. 1, 153-193.
- “Remarques sur les moyennes des fonctions de Piltz sur les entiers friables”, *Quart. J. Math. (Oxford)*, **67** (2016), vol. 4, pp. 507-517.
- “Weyl sums, mean value estimates and Waring’s problem with friable numbers” (with X. Shao), *Acta. Arith.*, **176** (2016), 249-299.
- “Théorèmes de type Fouvry–Iwaniec pour les entiers friables”, *Compos. Math.*, **151** (2015), 828-862.
- “Sommes friables d’exponentielles et applications”, *Canad. J. Math.*, **137** (2015), 597-638.
- “Propriétés multiplicatives des entiers friables translatés”, *Colloq. Math.*, **137** (2014), 149-164.
- “Sommes friables d’entiers friables”, *Math. Proc. Cambridge Phil. Soc.*, **154** (2013), 439-463.

#### Preprints :

- “On quantum modular forms of non-zero weights” (with S. Bettin).
- “Central values of additive twists of Maaß forms L-functions” (with A. Nordentoft).

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### Talks

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- *Summer school on Analytic Number Theory* (Paris, June-July 2021)
- *Second Symposium on Analytic Number Theory* (Cetraro, July 2019)
- *Canadian Number Theory Association XV* (Québec, July 2018)
- *2e Congrès de la SMF* (Lille, June 2018)
- Workshop: *Probability in Number Theory* (Montréal, May 2018)
- *Prime Numbers and Automatic Sequences : Determinism and Randomness* (CIRM, Luminy, May 2017)
- *ELAZ 2016* (Strobl-am-Wolfgangsee, Sept. 2016)
- Spring school *Analytic Number Theory* (Tehran, May 2016)
- *MuDeRa* (Vienna, May 2016)
- Workshop: *New approach in probabilistic and multiplicative number theory* (Montréal, December 2014)
- *Québec-Vermont Number Theory Seminar* (Montréal, October 2014)
- *Prime numbers : new perspectives* (CIRM, Luminy, February 2014).
- *Journée des doctorants en Théorie des Nombres* (Nancy, November 2012).
- *Colloque Jeunes chercheurs en Théorie des Nombres* (Lyon, June 2012).

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## Other activities

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- From September 2016, I co-organize the seminars *Ernest* and the workgroup *TAPAS* in arithmetic, at the I2M.
- In the academic year 2012-2013, I co-organized the Graduate Students Seminar at Paris–Diderot.
- During the year 2014-2015, I organized the Montreal Analytic Number Theory Seminar.