

# Lucile DEVIN

website : <http://www-lmpa.univ-littoral.fr/~ldevin/>

## Employement

- 2021-Present **Maître de Conférences**, *Laboratoire de Mathématiques Pures et Appliquées Joseph Liouville*, Université du Littoral Côte d'Opale, Calais
- 2020-2021 **Post-doctoral Fellow**, *Chalmers University of Technology*, Gothenburg with Anders Södergren.
- 2019-2020 **Post-doctoral Fellow**, *Centre de Recherches Mathématiques*, Université de Montréal with Andrew Granville and Chantal David.
- 2017-2019 **Post-doctoral Fellow**, *University of Ottawa* with Daniel Fiorilli.

## Research Interests

Chebyshev bias,  $L$ -functions over number fields and function fields, Low-lying zeros in families of  $L$ -functions, Chebotarev Density Theorem, reduction modulo primes numbers of varieties defined over  $\mathbf{Z}$ , Large sieve.

## Publications

### Published in peer-reviewed journals

1. Lucile Devin, *On the Congruence Class Modulo Prime Numbers of the Number of Rational Points of a Variety*, International Mathematics Research Notices, Volume 2018, Issue 14, July 2018, Pages 4450-4479. [doi.org/10.1093/imrn/rnx028](https://doi.org/10.1093/imrn/rnx028).
2. Lucile Devin, *Chebyshev's Bias for Analytic  $L$ -Functions*, Mathematical Proceedings of the Cambridge Philosophical Society, 169 (2020), no. 1, 103-140. [doi.org/10.1017/S0305004119000100](https://doi.org/10.1017/S0305004119000100).
3. Lucile Devin, *Limiting properties of the distribution of primes in an arbitrarily large number of residue classes*, Canadian Mathematical Bulletin, 63 (2020), no. 4, 837-849. [doi.org/10.4153/S0008439520000089](https://doi.org/10.4153/S0008439520000089).
4. Lucile Devin and Xianchang Meng, *Chebyshev's bias for products of irreducible polynomials*, Advances in Mathematics, 392 (2021). [doi.org/10.1016/j.aim.2021.108040](https://doi.org/10.1016/j.aim.2021.108040).
5. Chantal David, Lucile Devin, Jeremy Schlitt, Jungbae Nam, *Lemke Oliver and Soundararajan bias for consecutive sums of two squares*, Mathematische Annalen, (2021). [doi.org/10.1007/s00208-021-02307-2](https://doi.org/10.1007/s00208-021-02307-2).
6. Lucile Devin, Daniel Fiorilli and Anders Södergren, *Low-lying zeros in families of holomorphic cusp forms: the weight aspect*, The Quarterly Journal of Mathematics, (2022). [doi.org/10.1093/qmath/haac010](https://doi.org/10.1093/qmath/haac010)

### Preprint

7. Lucile Devin, *Discrepancies in the distribution of Gaussian primes*, [arXiv:2105.02492](https://arxiv.org/abs/2105.02492).
8. Lucile Devin, Daniel Fiorilli and Anders Södergren, *Extending the unconditional support in an Iwaniec-Luo-Sarnak family*, [arXiv:2210.15782](https://arxiv.org/abs/2210.15782).
9. Alexandre Bailleul, Lucile Devin, Daniel Keliher and Wanlin Li, *Exceptional biases in counting primes over function fields*, [arXiv:2302.13665](https://arxiv.org/abs/2302.13665).

## Education

- 2014-2017 **PhD in Mathematics**, *Université Paris-Sud*, Orsay  
Supervised by Florent Jouve, defense: 26/06/2017.  
*Algebraic and analytic properties of some sequences over prime numbers.*

- 2013–2014 **Master in Mathematics (M2 Analyse Arithmétique et Géométrie)**, *Université Paris Sud*, Orsay  
 Master thesis: *Quelques applications de la méthode de Stepanov*, supervised by Florent Jouve.
- 2013 **Agrégation de Mathématiques / Master in Mathematics Education**, *ENS Cachan*  
 (French exam to teach in secondary school)
- 2010–2012 **Bachelor in Mathematics (Magistère de Mathématiques Fondamentales et Appliquées)**, *Université Paris Sud*, Orsay  
 Award : Bourse d'excellence France–Europe FMJH for the year 2011–2012.

## Teaching

- Feb 2023 **Guest lecturer in Greg Martin's *Analytic Number Theory II***  
 lecture on properties of limiting distributions.
- 2022–Present **Maître de Conférences**, *Département de Mathématiques, Université du Littoral Côte d'Opale*, Calais
- L1, exercise sessions in Calculus (2022)
  - L2, exercise sessions in Probability (2022), Linear Algebra (2022, 2023)
  - L3, lecture on Complex Analysis (2023)
  - M1, preparation to the French contest CAPES de Mathématiques, Integration (2022), Algebra (2022–2023)
  - M2, preparation to the French contest Agrégation de Mathématiques, Algebra (2022–2023).
  - M2, preparation to the French contest CAPES de Mathématiques, Ecrit 2 (2023)
- Winter 2020 **Lecturer**, *Université de Montréal*, Montréal
- MAT 1101: Mathématiques fondamentales (for future math teachers)
  - Guest lecture in Andrew Granville's *Analytic Number Theory* (lecture on Chebyshev's bias).
- 2017–2018 **Part-time Professor**, *University of Ottawa*, Ottawa  
 Fall 2017: MAT 1722, Calcul différentiel et intégral II, Winter 2018: MAT 1322, Calculus II
- 2014–2017 **Teaching assistant**, *IUT*, Orsay  
 General mathematics and algorithmic exercises sessions for undergraduate students.
- 2013–2014 **Colles**, *Lycée Blaise Pascal*, Orsay  
 Inspector for oral tests in *Classes préparatoires aux grandes écoles*.

## Jury

- 2022–2023 **Jury for the oral exam of Mathematics**, *concours MP, ENS Paris–Saclay et Rennes*
- Vulgarization**
- 2015–2017 **Interventions in elementary schools for the “Fête de la Science”**, Essonne
- Jun. 2022 **Stage Seconde**, *talk on cryptography*, Calais
- Oct. 2022 **Filles et Maths une équation lumineuse**, *invited as the plenary speaker*, Dunkerque

## Research related activities

Referee for various mathematical journals and reviewer for Mathscinet.

### Supervision

<b>Undergrad.</b>	2019, Stella Nam,	<i>Futurama's Theorem</i> , McGill, Montréal.
<b>Summer Projects</b>	2020, Jeremy Schlitt,	<i>Lemke Oliver and Soundararajan bias for consecutive sums of two squares</i> , Concordia, Montréal, co-supervision with Chantal David.
<b>Bachelor Thesis</b>	2021, Two groups	<i>Matematiska såll och deras tillämpningar</i> , and <i>Matematiska såll, primtalstvillingar och Chens sats</i> , Göteborg University, co-supervision with Anders Södergren.
<b>M1</b>	2022, Louis Rose,	<i>Primes of the form <math>x^2 + ny^2</math></i> , ULCO.
	2023, Gustave Masson,	<i>Méthodes de crible et nombres premiers jumeaux</i> , ENS Paris–Saclay.
<b>M2</b>	2023, Marine Noël,	<i>L'algorithme de Berlekamp</i> , ULCO.

## Punctual organization

- Jun. 2021 **Scientific session in the CMS Meeting**, *University of Ottawa*  
Amicale de théorie des nombres en hommage à Robert Langlands
- May 2022 **Arithmétique en Plat Pays**, *ULCO*, Calais
- Sept. 2022 **Congrès des Jeunes Chercheuses et Chercheurs en Mathématiques**, *ULCO*, Calais
- Oct. 2023 **Frobenius IV**, online conference
- Jun. 2024 **Comparative Prime Number Theory Symposium**, *UBC*, Vancouver
- Aug. 2024 **Analytic Number Theory and Arithmetic Statistics - Celebrating the mathematical contributions of Chantal David**, *CRM*, Montreal

## Recurrent events organization

- 2015–2017 **Weekly workshop on analytic number theory**, *Université Paris-Sud and IHP*
- 2018–2020 **Analytic Number Theory Learning Seminar**, *Université de Montréal*
- 2022–Present **Séminaire ADA**, *LMPA, Université du Littoral Côte d'Opale*, Calais

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## Languages

French	<i>Native Language</i>	Spanish	<i>Basic</i>
English	<i>Fluent</i>	Swedish	<i>Beginner</i>

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## Talks and Conferences

### Invited talks in conferences

- Jun. 2024 **Comparative Prime Number Theory Symposium**, *UBC*, Vancouver
- Aug. 2023 **Workshop on automorphic forms**, *Shandong University*, Jinan
- Dec. 2022 **Arithmétique en Plat Pays 35**, Lille
- Nov. 2022 **Analytic Number Theory workshop**, *Mathematisches Forschungsinstitut*, Oberwolfach
- Nov. 2020 **N-cube Days XIII**, (virtual)
- Sep. 2020 **Palmetto Joint Arithmetic, Modularity, and Analysis Series**, (virtual)
- Dec. 2019 **Zeta functions**, *CIRM*, Luminy
- Feb. 2019 **Shaoul Fund IAS International Workshop on Function Field Arithmetic**, *Tel Aviv University*
- May 2018 **Junior member of the program *Probability in Number Theory***, *CRM*, Montréal
- Jun. 2017 **Arithmétique, Géométrie, Cryptographie et Théorie des Codes**, *CIRM*, Luminy
- May 2017 **Nombres premiers et suites automatiques : aléa et déterminisme**, *CIRM*, Luminy

### Seminars

- Dec. 2023 **Séminaire de théorie des nombres de l'IMJ-PRG**, *Université Paris Cité*
- Oct. 2023 **CRG L-functions Weekly Seminar Series**, online
- Sept. 2023 **KSU Number Theory Seminar**, *Kansas State University*, online
- Aug. 2023 **Number theory seminar**, *Qingdao University*
- May. 2023 **London Number Theory seminar**, *King's College London*
- Jan. 2023 **Rencontres de théorie analytique et élémentaire des nombres**, *IHP*, Paris
- Nov. 2022 **Heilbronn Number Theory seminar**, Bristol
- Nov. 2022 **Number Theory seminar**, Manchester
- Oct. 2022 **Séminaire Combinatoire et Théorie des Nombres**, *Institut Camille Jordan*, Lyon
- Apr. 2022 **Seminar**, *School of Mathematics – Shandong University*, (virtual)
- Mar. 2022 **Séminaire de Théorie des Nombres de Nancy–Metz**, *Institut Elie Cartan*, Nancy
- Mar. 2022 **Séminaire de Théorie des Nombres**, *IMB*, Bordeaux
- Jan. 2022 **Séminaire d'Arithmétique et de Géométrie Algébrique**, *LMO*, Orsay
- Jan. 2022 **Rencontres de théorie analytique et élémentaire des nombres**, *IHP*, Paris
- Dec. 2021 **Kent-Littoral seminar**, (virtual)
- Nov. 2021 **French–Korean Webinar in Number Theory**, (virtual)
- Nov. 2021 **Seminar in Algebraic Geometry and Number Theory**, *Chalmers and University of Gothenburg*
- Jun. 2021 **Number Theory Lunch Seminar**, *MPIM*, Bonn (virtual)
- Jun. 2021 **Number Theory Seminar**, *KTH*, Stockholm (virtual)
- Jun. 2021 **Number Theory Seminar**, *Charles University*, Prague (virtual)
- Feb. 2021 **Séminaire Teich**, *Institut de Mathématiques de Marseille*, Marseille (virtual)

- Jan. 2021 **Séminaire Equipe ADA**, *Laboratoire de Mathématiques Pure et Appliquées*, Calais (virtual)
- Oct. 2020 **Analytic and Probabilistic Number Theory seminar**, (virtual)
- Sep. 2020 **Seminar in Algebraic Geometry and Number Theory**, *Chalmers and University of Gothenburg*
- Mar. 2020 **Joint Columbia–CUNY–NYU Number Theort Seminar**, *Courant Institute*, New York
- Feb. 2020 **Tufts Algebra, Geometry, and Number Theory Seminar**, *Tufts University*
- Dec. 2019 **Séminaire de Théorie des Nombres**, *Institut Fourier*, Grenoble
- Dec. 2019 **Groups, Arithmetic & Algebraic Geometry Seminar**, *EPFL*, Lausanne
- Dec. 2019 **Séminaire et Groupe de travail Théorie des Nombres**, *LMBP*, Clermont-Ferrand
- Sep. 2019 **Number Theory lunch seminar**, *MPIM*, Bonn
- Sep. 2019 **Rencontres de théorie analytique et élémentaire des nombres**, *IHP*, Paris
- Sep. 2019 **Séminaire d'Algèbre et Théorie des nombres**, *LMB*, Besançon
- Jun. 2019 **Number Theory seminar**, *UOttawa*, Ottawa
- Mar. 2019 **Analytic Number Theory Seminar**, *Stanford University*, Stanford
- Mar. 2019 **Number Theory Seminar**, *Stanford University*, Stanford
- Mar. 2019 **FRAGMENT Seminar**, *Colorado State University*, Fort Collins
- Feb. 2019 **Séminaire Dynamique, Arithmétique, Combinatoire (Ernest)**, *Aix-Marseille Université*
- Dec. 2018 **Number Theory and Combinatorics Seminar**, *University of Lethbridge*, Lethbridge
- Feb. 2018 **Quebec-Vermont Number Theory Seminar**, *Mc Gill University*, Montréal
- Feb. 2018 **Number Theory seminar**, *York University*, Toronto
- Oct. 2017 **Number Theory seminar**, *UW*, Waterloo
- Sep. 2017 **Number Theory seminar**, *UOttawa*, Ottawa
- Mar. 2017 **Séminaire de Théorie des Nombres**, *Institut Fourier*, Grenoble
- Dec. 2016 **Séminaire de Théorie des Nombres**, *Institut Elie Cartan*, Nancy
- Oct. 2016 **Séminaire d'Algèbre et Théorie des nombres**, *LMB*, Besançon
- Oct. 2016 **Rencontres de théorie analytique et élémentaire des nombres**, *IHP*, Paris
- Jun. 2015 **Rencontres de théorie analytique et élémentaire des nombres**, *IHP*, Paris

### Contributed talks

- Jun. 2021 **Canadian Mathematical Society Summer Meeting**, Ottawa
- Dec. 2020 **Canadian Mathematical Society Winter Meeting**, Montreal
- Dec. 2018 **Canadian Mathematical Society Winter Meeting**, Vancouver
- Oct. 2018 **Quebec-Maine Number Theory Conference**, *Université Laval*, Québec
- Jul. 2018 **Canadian Number Theory Association conference**, *Université Laval*, Québec
- Jun. 2018 **Canadian Mathematical Society Summer Meeting**, *UNB*, Fredericton
- Jul. 2017 **Journées Arithmétiques**, Caen
- Jun. 2016 **École jeunes chercheurs en théorie des nombres**, *UBP*, Clermont-Ferrand

### General audience talks

- Feb. 2020 **Concordia Pizza Seminar**, *Concordia University*, Montréal
- Mar. 2019 **Women in Maths club speaker series**, *University of Ottawa*, Ottawa