

# Aliaume LOPEZ

## Curriculum Vitae

Born the 27/12/1995 in Paris 12  
Nationality: French

### PROFESSIONNAL EXPERIENCE

2025 – PRÉSENT (FONCTIONNAIRE)  
INP Bordeaux - ENSEIRB-MATMECA  
**Maitre de Conférences en Informatique**  
*Rattaché au LaBRI dans l'équipe LX.*

2023 – 2025 (FULL TIME)  
University of Warsaw  
**Postdoctoral Contract**  
*Under the supervision of Mikolaj Bojańczyk. Theoretical study of minimalist programming languages for string to string transformations (expressivity, decidability, optimisation).*

2019 – 2023 (FULL TIME)  
École Normale Supérieure Paris-Saclay  
Université Paris Cité  
**Ph.D in Computer Science with Teaching Duties**  
*Under the supervision of Jean Goubault-Larrecq and Sylvain Schmitz. Research on data-centric systems from a very theoretical point of view.*

2020 – 2021 (FULL TIME)  
Direction Interministérielle du Numérique  
Autorité de Sûreté Nucléaire  
**Chargé d'Affaires - Fullstack Developer**  
*Creation of a platform for collecting and analyzing public documents related to nuclear safety and radioprotection as part of the "Entrepreneur of General Interest" program.*

2017 – 2019 (PART TIME)  
Institution Sainte Marie  
Lycée Lakanal  
**Khôlleur de mathématiques**

MARCH 2017 – JULY 2017 (FULL TIME)  
University of Ljubljana, Slovenia  
**Research internship**  
*Under the supervision of Alex K. Simpson. Creation of a method for analyzing programs taking into account the "side effects", which are essential in real languages.*

JUNE 2015 – JULY 2015 (FULL TIME)  
University of Birmingham, United Kingdom  
**Research internship**  
*Under the supervision of Dan R. Ghica. Optimization of circuits containing feedback loops.*

2015 – 2019 (FONCTIONNAIRE STAGIAIRE)  
ENS Paris-Saclay  
**Normalien Élève**

### RESPONSABILITIES

2027 **PC Member** (CSL 2027)  
2026 **Co-Organisateur** (SAMS A 2026)  
2025 **PC Member** (CSL 2025)  
2019 – PRÉSENT **Peer Reviewer** (A\* conferences)  
2025 **Workshop Autoboz** (Steering Committee)  
2024 **Workshop Autoboz** (Co-Organisateur)  
2022 – 2023 **Séminaire Automates à l'IRIF** (Co-Organisateur)  
2021 – 2022 **IDeA** (Co-creator)  
2017 – 2019 **Association Pirat'ENS** (Secretary)

### SKILLS

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### AWARDS

2024 🏆 Ackermann Award [🔗](#)  
2024 🏆 E.W. Beth Dissertation Prize [🔗](#)

### EDUCATION

2023 – 2025 **Post-Ph.D in Computer Science**  
UNDER THE SUPERVISION OF MIKOŁAJ BOJAŃCZYK  
*University of Warsaw*

2019 – 2023 **Ph.D in Computer Science**  
THÈSE SOUTENUE LE 12/09/2023  
Informatique Fondamentale  
*LMF, ENS Paris-Saclay*  
*IRIF, Université Paris-Cité*

2018 **Agrégation de Mathématiques**  
RANKED 5TH OUT OF 320  
With Computer Science as a Minor  
*École Normale Supérieure de Cachan*

2017 – 2018 **Masters in Mathematics**  
WITH HIGH HONOURS  
Master de Formation à l'Enseignement Supérieur  
*École Normale Supérieure de Cachan*

2016 – 2019 **Masters in Computer Science**  
WITH HIGH HONOURS  
Master Parisien de Recherche en Informatique  
*École Normale Supérieure de Cachan*

2015 – 2016 **Bachelors in Computer Science**  
WITH HIGH HONOURS  
*École Normale Supérieure de Cachan*

2015 – 2016 **Bachelors in Mathematics**  
WITH HIGH HONOURS  
*École Normale Supérieure de Cachan*

2013 – 2015 **MPSI/MP\***  
WITH HIGH HONOURS  
Intensive mathematics and physics courses  
*Lycée Joffre, Montpellier*

2013 **Baccalauréat scientifique**  
WITH HIGH HONOURS  
*Lycée Georges Pompidou, Castelneau-le-Lez*

### TEACHING

2025 – 2026 **INP Bordeaux - ENSEIRB-MATMECA**  
L3 Logique et preuve  
M1 Systèmes de Gestion de Bases de Données  
L3 Automates finis et applications  
M1 Programmation fonctionnelle  
M1 Outils pour le développement logiciel  
M1 Calculabilité et complexité  
M1 Applications TCP/IP  
M2 Projet de fin d'études

2023 – 2024 **University of Warsaw**  
M1 Transducteurs (nouveau cours)

2022 – 2023 **Université Paris Cité**  
L1 TP de Programmation en Python  
L1 TP de Programmation en Java  
L1 TP d'Introduction aux Systèmes d'Exploitation

TRANSVERSES Synthèse, Présentation orale, Gestion de projet  
INFORMATIQUE Méthodes formelles, Logique  
PROGRAMMATION Frontend, Backend, Dev/Ops, Système, Dataviz

## LANGUAGES

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NATIVE French  
FLUENT English  
BEGINNER Polish, German

2021 – 2022 **Université Paris Cité**  
L3 TP de Programmation Fonctionnelle  
L2 TP/TD de Gestion de Projet (Projet)  
L3 TP de Programmation Réseau

2019 – 2020 **École Normale Supérieure Paris-Saclay**  
M1 TD de Complexité Avancée  
L3 TD de Programmation I

## PUBLICATIONS (JOURNAL)

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- [GHL23] Jean Goubault-Larrecq, Simon Halfon and Aliaume Lopez. “Infinitary Noetherian Constructions II. Transfinite Words and the Regular Subword Topology”. In: *Colloquium Mathematicum* 2 (2023).

## PUBLICATIONS (CONFERENCE)

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- [Lop25a] Aliaume Lopez. “Commutative  $\mathbb{N}$ -Rational Series of Polynomial Growth”. In: *42nd International Symposium on Theoretical Aspects of Computer Science (STACS 2025)*. 2025.
- [Lop25b] Aliaume Lopez. “Labelled Well Quasi Ordered Classes of Bounded Linear Clique-Width”. In: *50th International Symposium on Mathematical Foundations of Computer Science (MFCS 2025)*. 2025.
- [LS25] Aliaume Lopez and Rafał Stefański. “Polyregular Model Checking”. In: *Computer Aided Verification (CAV 2025)*. 24th Mar. 2025.
- [CDL23] Thomas Colcombet, Gaëtan Douéneau-Tabot and Aliaume Lopez. “ $\mathbb{Z}$ -polyregular functions”. In: *38th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS)*. June 2023.
- [Lop23b] Aliaume Lopez. “Fixed Points and Noetherian Topologies”. In: *Foundations of Software Science and Computation Structures*. 2023.
- [Lop22c] Aliaume Lopez. “When Locality Meets Preservation”. In: *37th Annual ACM/IEEE Symposium on Logic in Computer Science*. 2nd Aug. 2022.
- [Lop21c] Aliaume Lopez. “Preservation Theorems Through the Lens of Topology”. In: *30th EACSL Annual Conference on Computer Science Logic (CSL 2021)*. 2021.
- [LS18] Aliaume Lopez and Alex Simpson. “Basic Operational Preorders for Algebraic Effects in General, and for Combined Probability and Nondeterminism in Particular”. In: *27th EACSL Annual Conference on Computer Science Logic (CSL 2018)*. 7th Sept. 2018.
- [GJL17] Dan R. Ghica, Achim Jung and Aliaume Lopez. “Diagrammatic Semantics for Digital Circuits”. In: *26th EACSL Annual Conference on Computer Science Logic (CSL 2017)*. 2017.
- [GL17] Dan R. Ghica and Aliaume Lopez. “A structural and nominal syntax for diagrams”. In: *Proceedings 14th International Conference on Quantum Physics and Logic, QPL 2017, Nijmegen, The Netherlands, 3-7 July 2017*. 2017.

## UNPUBLISHED DOCUMENTS

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- [Boj+25] Mikołaj Bojańczyk, Aliaume Lopez, Rafał Stefański and Omid Yaghoubi. *Regularity as seen by Alice and Bob*. 2025.
- [GL25] Arka Ghosh and Aliaume Lopez. *Computability of Equivariant Gröbner bases*. 2025.
- [LLS24] Nathan Lhote, Aliaume Lopez and Lia Schütze. *Well-quasi-orderings on word languages*. 2024.
- [Lop24a] Aliaume Lopez.  *$\mathbb{N}$ -polyregular functions arise from well-quasi-orderings*. 2024.
- [Abr+23] Sergio Abriola, Simon Halfon, Aliaume Lopez, Sylvain Schmitz, Philippe Schnoebelen and Isa Vialard. *Measuring well quasi-ordered finitary powersets*. 2023.
- [GL20] Jean Goubault-Larrecq and Aliaume Lopez. *On the word topology, and beyond. Non-Hausdorff Topology and Domain Theory*. 2020.

## REPORTS

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- [DLP23] Gaëtan Douéneau-Tabot, Aliaume Lopez and Laurent Proserpi. *Recrutement et emploi des docteurs dans les administrations publiques*. Oct. 2023.
- [Lop17] Aliaume Lopez. *Generic Operational Metatheory*. Soutenance de Stage. 30th Aug. 2017.

## TALKS

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- [Lop25c] Aliaume Lopez. “Polyregular Model Checking”. M2F Seminar of LaBRI. 30th Sept. 2025.
- [Lop25d] Aliaume Lopez. “Polyregular Model Checking”. Automata Seminar of IRIF. 13th June 2025.
- [Lop25e] Aliaume Lopez. “Well-quasi-ordered classes of graphs and bounded linear clique-width”. Seminar Automata Theory. 9th Apr. 2025.
- [Lop25f] Aliaume Lopez. “Well-Quasi-Orders and Logic on Graphs”. FMT’25. 29th Apr. 2025.
- [Lop24b] Aliaume Lopez. “Labelled Well Quasi Ordered Classes of Bounded Linear Clique-Width”. HIGHLIGHTS Workshop. 18th Sept. 2024.
- [Lop24c] Aliaume Lopez. “Well-quasi-ordered classes of bounded (linear) clique-width: an automata based approach”. Algo Seminar. 7th Nov. 2024.
- [Lop24d] Aliaume Lopez. “Well-quasi-ordered classes of bounded (linear) clique-width: an automata based approach”. LX Seminar. 4th Nov. 2024.
- [Lop24e] Aliaume Lopez. “Which polynomials are computed by  $\mathbb{N}$ -weighted automata?”. LINKS Seminar. 12th Nov. 2024.
- [Lop24f] Aliaume Lopez. “Which polynomials are computed by  $\mathbb{N}$ -weighted automata?”. MOVE Seminar. 8th Nov. 2024.
- [Lop23a] Aliaume Lopez. “Compositional Techniques for Preservation Theorems over Classes of Finite Structures”. BOREAL Seminar. 6th Nov. 2023.
- [Lop23c] Aliaume Lopez. “Preservation theorems and locality of first order logic”. M2F Seminar. 2nd Mar. 2023.
- [Lop23d] Aliaume Lopez. “The Eos-Tarski theorem and locality”. M2F Seminar. 18th Oct. 2023.
- [Lop23f] Aliaume Lopez. “ $\mathbb{Z}$ -Polyregular functions”. MOVE Seminar. 7th Dec. 2023.
- [Lop22a] Aliaume Lopez. “Generic Noetherian Theorems - Defining Noetherian Topologies Through Iterations”. BRAVAS. 11th Apr. 2022.
- [Lop22b] Aliaume Lopez. “Locality and Preservation Theorems”. DAAL. 28th Mar. 2022.
- [LD22] Aliaume Lopez and Gaëtan Douéneau-Tabot. “Rejoindre l’administration publique avec un doctorat - Comment et pourquoi ?” Séminaire du Département Informatique. 29th Nov. 2022.
- [Lop21a] Aliaume Lopez. “Basic Operational Preorders for Algebraic Effects - With a pinch of non-determinism and probabilities”. PPS Seminar. 17th Dec. 2021.
- [Lop21b] Aliaume Lopez. “Preservation theorems - At the crossroads of topology and logics”. ASV Seminar. 19th Nov. 2021.
- [Lop16] Aliaume Lopez. “Une syntaxe améliorée pour la description de circuits digitaux”. 2016.