

# Aliaume LOPEZ

## Curriculum Vitae

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

### PROFESSIONNAL EXPERIENCE

2023 – 2025 (FULL TIME)  
University of Warsaw  
**Postdoctoral Contract**

*Under the supervision of Mikołaj 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.

### RESPONSABILITIES

2019 – PRÉSENT  
2025 **Peer Reviewer** (*A\* conferences*)  
2024 **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

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

### LANGUAGES

NATIVE French  
FLUENT English  
BEGINNER Polish, German

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### AWARDS

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

### EDUCATION

2023 – PRÉSENT **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

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

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 1

## 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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- [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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- [LLS24] Nathan Lhote, Aliaume Lopez and Lia Schütze. *Well-quasi-orderings on word languages*. 2024.
- [Lop24a] Aliaume Lopez. *N-polyregular functions arise from well-quasi-orderings*. 2024.
- [Lop24b] Aliaume Lopez. *Commutative N-polyregular functions*. 2024.
- [Lop24c] Aliaume Lopez. *Labelled Well Quasi Ordered Classes of Bounded Linear Clique Width*. 2024.
- [LS24] Aliaume Lopez and Rafał Stefański. *First-Order Polyregular Functions and Model Checking*. Version 0.0.1. 3rd Sept. 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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- [Lop24d] Aliaume Lopez. “Labelled Well Quasi Ordered Classes of Bounded Linear Clique-Width”. HIGHLIGHTS Workshop. 18th Sept. 2024.
- [Lop24e] Aliaume Lopez. “Well-quasi-ordered classes of bounded (linear) clique-width: an automata based approach”. Algo Seminar. 7th Nov. 2024.
- [Lop24f] Aliaume Lopez. “Well-quasi-ordered classes of bounded (linear) clique-width: an automata based approach”. LX Seminar. 4th Nov. 2024.
- [Lop24g] Aliaume Lopez. “Which polynomials are computed by N-weighted automata?”. LINKS Seminar. 12th Nov. 2024.
- [Lop24h] Aliaume Lopez. “Which polynomials are computed by 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 Łos-Tarski theorem and locality”. M2F Seminar. 18th Oct. 2023.
- [Lop23f] Aliaume Lopez. “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.