

# ANTOINE ABRAM

UQÀM, Département de Mathématiques  
201, avenue du Président-Kennedy, Montréal, QC, CA, H2X 3Y7  
abram.antoine@courrier.uqam.ca

## EDUCATION

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### Université du Québec à Montréal

Ph.D. in Mathematics, specialisation in Combinatorics, *Advisor: C. Reutenauer*

2021-

M.S. in Mathematics, *Advisor: C. Reutenauer*

2018-2021

B.S. in Mathematics

2015-2018

## EXPERIENCE

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### Research Internships

- *Christoffel words and Markoff numbers* [6],  
Supervisor: C. Reutenauer,  
LACIM, May-August 2018, partially funded by a NSERC grant.
- *Coxeter groups, Garside shadows and minimal automata recognizing the language of reduced words*,  
Supervisor: C. Hohlweg,  
LACIM, May-August 2017, partially funded by a ISM grant.
- *Initiation to enumerative and algebraic combinatorics*,  
Supervisor: C. Reutenauer  
LACIM, May-August 2016.

### Talks

- *Power-quotient of plactic-like monoids*  
Gascom 2024, LaBRI, Bordeaux, June 25, 2024
- *Flow polytopes on graph with cycles*  
ISM Discovery School; Flow polytopes, gentle algebra and associated posets, Montreal, May 10, 2024
- *Circular and signed permutations*  
Fields Algebraic Combinatorics Seminar, April 12, 2024
- *The stylic monoid and other quotients*  
Dartmouth College Combinatorics Seminar, March 24, 2024
- *The stylic monoid*  
York Combinatorics Seminar, March 20, 2023
- *Block-counting sequences are not purely morphic*  
Séminaire de Combinatoire de Marne-Lavallée, February 10, 2023
- *Le monoïde stylique*  
Séminaire du LACIM, June 11, 2021
- *Palindromization and Markoff triples*  
Giornate di informatica teorica dedicate alla memoria di Aldo de Luca, July 12, 2019

### Posters and small conference talk

- *Alcoved signed permutations (with Jose Bastidas)*  
ISM Discovery School; Flow polytopes, gentle algebra and associated posets, Montreal, May 9, 2024
- *Alcoved signed permutations*  
CAAC 2024, Montreal, January 27, 2024

## ARTICLES AND PROCEEDINGS

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- [1] Antoine Abram, Yining Hu, and Shuo Li. “Block-counting sequences are not purely morphic”. In: *Advances in Applied Mathematics* 155 (2024), p. 102673.
- [2] Antoine Abram et al. “Power Quotients of Plactic-like Monoids”. In: Proceedings of the 13th edition of the conference on *Random Generation of Combinatorial Structures. Polyominoes and Tilings*, Bordeaux, France, 24-28th June 2024. Ed. by Srečko Brlek and Luca Ferrari. Vol. 403. Electronic Proceedings in Theoretical Computer Science. Open Publishing Association, 2024, pp. 12–17. DOI: 10.4204/EPTCS.403.7.
- [3] Antoine Abram, Christophe Reutenauer, and Franco V Saliola. “Quivers of stylic algebras”. In: *Algebraic Combinatorics* 6.6 (2023), pp. 1621–1635.
- [4] Antoine Abram and Christophe Reutenauer. “The stylic monoid”. In: *Semigroup Forum* 105.1 (2022), pp. 1–45.
- [5] Antoine Abram, Nathan Chapelier-Laget, and Christophe Reutenauer. “An Order on Circular Permutations”. In: *The Electronic Journal of Combinatorics* (2021), P3–31.
- [6] Antoine Abram, Mélodie Lapointe, and Christophe Reutenauer. “Palindromization and construction of Markoff triples”. In: *Theoretical Computer Science* 809 (2020), pp. 21–29.

## MATHEMATICAL INTERESTS

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Plactic and plactic-like monoids, symmetric and quasi-symmetric functions, Coxeter groups, combinatorics on words, posets and lattices, arrangements of hyperplanes, convex polytopes, quiver representation, generating functions