CURRICULUM VITAE

Herman Goulet-Ouellet ®

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– Employment –

Postdoctoral researcher.

2024-2025 (ongoing)

CTU, Czech Republic. Funded by the CTU Global Postdoc Fellowship program. Collaboration with Štěpán Starosta.

Postdoctoral researcher. 2023

IRIF, France. Funded by the ANR CODYS project (ANR-18-CE40-0007). Collaboration with Valérie Berthé.

—— Education ———

PhD in Mathematics. With highest praise (com Distinção e Louvor).

2022

University of Coimbra, Portugal.

ADVISORS: Jorge Almeida and Alfredo Costa.

THESIS: Schützenberger groups of minimal shift spaces.

Master in Mathematics. With highest praise (Excellent).

2018

Université du Québec à Montréal, Canada.

ADVISOR: Franco Saliola.

Bachelor in Mathematics.

2016

Université du Québec à Montréal, Canada.

Diploma of College Studies in Computer science and mathematics.

2013

Collège de Maisonneuve, Montreal, Canada.

Publications —

J. Almeida, H. Goulet-Ouellet, and O. Klíma. **What makes a Stone topological algebra profinite**. *Algebra Universalis*, vol. 84, no. 1 (2023). doi: 10.1007/s00012-023-00804-w. arXiv: 2109.07286v1.

V. Berthé and H. Goulet-Ouellet. **On substitutions preserving their return sets**. In: *Words 2023*. Ed. by A. Frid and R. Mercas. vol. 13899. Lecture Notes in Computer Science. 2023. doi: 10.1007/978-3-031-33180-0_6. hal: hal-04311379.

Last update: February 2, 2024

- H. Goulet-Ouellet. Freeness of Schützenberger groups of primitive substitutions. *International Journal of Algebra and Computations*, vol. 32, no. 06 (2022), pp. 1101–1123. doi: 10.1142/S0218196722500473. arXiv: 2109.11957v1.
- H. Goulet-Ouellet. **Pronilpotent quotients associated with primitive substitutions**. *Journal of Algebra*, vol. 606 (2022), pp. 341–370. doi: 10.1016/j.jalgebra.2022.05.021. arXiv: 2204.05706v1.
- H. Goulet-Ouellet. Suffix-connected languages. *Theoretical Computer Science*, vol. 923 (2022), pp. 126–143. doi: 10.1016/j.tcs.2022.05.001. arXiv: 2106.00452v1.

Teaching experience

Teaching assistant.

2023

Université Paris Cité. Object Oriented Programming in Java, 48 h.

Mini course on profinite monoid and symbolic dynamics.

2023

IRIF, Paris. Duration: 6 h.

Teaching assistant.

2015-2018

Université du Québec à Montréal.

YEAR	Topic	RESPONSABILITIES	Duration
	Advanced linear algebra Theory of equations	Teaching, grading Teaching, grading	150 h 108 h
	Matrix algebra	Grading	26 h
2016	Theory of equations	Teaching	60 h
2015	Matrix algebra	Grading	21 h
2015	Algorithmics	Teaching, grading	150 h

----- Talks ------

Conferences

Profinite approach to conjugacy of substitutive shifts. Invited speaker.

July 5, 2023

Dyadisc 6, Amiens, France

On substitutions preserving their return sets.

June 15, 2023

Words 2023, Umeå, Sweden

Forays beyond dendricity.

May 26, 2023

Numeration 2023, Liège, Belgium.

Pronilpotent quotients associated with primitive substitutions.

September 5, 2022

18th Mons Theoretical Computer Science Days, Prague, Czech Republic.

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A pronilpotent look at maximal subgroups of free profinite monoids. Topology, Algebra, and Categories in Logic (TACL), Coimbra, Portugal.	June 24, 2022
Suffix-connected languages. Online. Encontro Nacional da Sociedade Portuguesa de Matemática, Portugal.	July 12-16, 2021
Suffix-connected languages. Online. Poster. Dyadisc4, Amiens, France.	July 8-9, 2021
Seminars	
Density of group languages in minimal shifts. Online. SymPA seminar, Université de Picardie Jules Verne, France.	January 30, 2024
Densité des langages rationnels dans les espaces symboliques. LACIM seminar, UQAM, Canada.	January 12, 2024
Density of rational languages under invariant measures. Online. One World Combinatorics on Words seminar.	October 24, 2023
Obstructions to return preservation for episturmian morphisms. Discrete Mathematics seminar, ULiège, Beligum.	September 29, 2023
Monoïdes profinis et dynamique symbolique. LACIM seminar, UQAM, Canada.	August 25, 2023
What lies inside free profinite monoids. Automata and applications seminar, Université Paris Cité, France.	April 21, 2023
Freeness of Schützenberger groups of primitive substitutions. Online. Semigroups, automata and languages seminar, University of Porto, Portug	April 29, 2022 al.
——— Awards ————————————————————————————————————	
PhD scholarship. Duration: 4 years. Fundação para a Ciência e a Tecnologia.	2018
Scholarship – 2 nd cycle. Duration: 1 year. Fonds de recherche du Québec – Nature et technologies.	2017
Alexander Graham Bell Canada Graduate Scholarships. Duration: 1 year. Natural Sciences and Engineering Research Council of Canada.	2016
Undergraduate Student Research Award. Duration: 15 weeks.	2014, 2015 and 2016

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Natural Sciences and Engineering Research Council of Canada.

——— Programming —

PythonC++

SageMathLaTeX

 Haskell Java

• Git

• GAP

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