

CURRICULUM VITAE

Herman Goulet-Ouellet

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Employment

- Postdoctoral researcher.** 2024-2025 (upcoming)
Czech Technical University, Czech Republic. Funded by the CTU Global Postdoc Fellowship program.
- Postdoctoral researcher.** 2023
IRIF, France. Funded by the Agence Nationale de Recherche through the CODYS project (ANR-18-CE40-0007).

Education

- PhD in Mathematics.** With highest praise (*com Distinção e Louvor*). 2022
University of Coimbra, Portugal. Advisors: Jorge Almeida and Alfredo Costa.
- 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 Univers.*, 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: *Combinatorics on words, 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.
- H. Goulet-Ouellet. **Freeness of Schützenberger groups of primitive substitutions.** *Int. J. Algebra Comput.*, vol. 32, no. 06 (2022), pp. 1101–1123.
doi: 10.1142/S0218196722500473 • arXiv: 2109.11957v1.
- H. Goulet-Ouellet. **Pronilpotent quotients associated with primitive substitutions.** *J. Algebra*, vol. 606 (2022), pp. 341–370.
doi: 10.1016/j.jalgebra.2022.05.021 • arXiv: 2204.05706v1.
- H. Goulet-Ouellet. **Suffix-connected languages.** *Theoret. Comput. Sci.*, vol. 923 (2022), pp. 126–143.
doi: 10.1016/j.tcs.2022.05.001 • arXiv: 2106.00452v1.

Thesis

H. Goulet-Ouellet. **Schützenberger groups of minimal shift spaces**. Advisors: Jorge Almeida and Alfredo Costa. PhD thesis. Universidade de Coimbra, 2022.

Teaching experience

Teaching assistant. 2023 (ongoing)
Université Paris Cité. Object Oriented Programming, 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.

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| 2018 | MAT1260 Algèbre linéaire II (advanced linear algebra) | <i>Teaching, grading and tutoring.</i> | 150 h |
| 2017 | MAT3005 Théorie des équations (theory of equations) | <i>Teaching and grading.</i> | 108 h |
| 2017 | MAT1600 Algèbre matricielle (linear algebra) | <i>Grading.</i> | 26 h |
| 2016 | MAT3005 Théorie des équations (theory of equations) | <i>Teaching.</i> | 60 h |
| 2015 | MAT1600 Algèbre matricielle (linear algebra) | <i>Grading.</i> | 21 h |
| 2015 | MAT1060 Math. algorithmiques (algorithmics) | <i>Teaching, grading and tutoring.</i> | 150 h |

Talks

Obstructions to return preservation for episturmian morphisms. September 29, 2023
Seminar – Discrete Mathematics, ULiège, Belgium.

Monoïdes profinis et dynamique symbolique. August 25, 2023
Seminar – LACIM, UQAM, Canada.

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.

What lies inside free profinite monoids. April 21, 2023
Seminar – Automata and applications, Université Paris Cité, France.

Pronilpotent quotients associated with primitive substitutions. September 5, 2022
18th Mons Theoretical Computer Science Days, Prague, Czech Republic.

A pronilpotent look at maximal subgroups of free profinite monoids. June 24, 2022
Topology, Algebra, and Categories in Logic (TACL), Coimbra, Portugal.

Freeness of Schützenberger groups of primitive substitutions. Online. April 29, 2022
Seminar – Semigroups, automata and languages, University of Porto, Portugal.

Suffix-connected languages. Online. July 12–16, 2021
Encontro Nacional da Sociedade Portuguesa de Matemática, Portugal.

Suffix-connected languages. Online. Poster. July 8–9, 2021
Dyadisc4, Amiens, France.

Awards

PhD scholarship. Duration: 4 years. 2018 contest
Fundação para a Ciência e a Tecnologia.

Scholarship – 2nd cycle. Duration: 1 year. 2017 contest
Fonds de recherche du Québec – Nature et technologies.

Alexander Graham Bell Canada Graduate Scholarships. Duration: 1 year. 2016 contest
Natural Sciences and Engineering Research Council of Canada.

Undergraduate Student Research Award. Duration: 15 weeks. 2014, 2015 and 2016 contests
Natural Sciences and Engineering Research Council of Canada.

Programming

- Python
- Haskell
- C++
- Java
- SageMath
- Git
- \LaTeX
- GAP