

## Appointments

- 2024 – Now • **Assegno di Ricerca (Post-doctoral position)** Palermo, Italy,  
Supervisor: Gabriele Fici,  
Title: *Combinatorics on words for machine learning*.

## Education

- 2021 – 2024 • **Ph.D. in Computer Science**, CWI Amsterdam, The Netherlands,  
Supervisors: Solon P. Pissis, Leen Stougie,  
Thesis title: *Variable strings for pangenomes: Matching, Comparison, Alignment*.
- 2020 – 2021 • **M.Sc. Fundamental Mathematics, Université de Paris** (Second year) Paris, France,  
Supervisor: Laurent Bulteau,  
Thesis title: *Parametrized algorithms for consensus problems with swaps*.
- 2020 • **Summer research internship, Université de Brest** Brest, France,  
Supervisor: Johannes Huisman,  
Topic: *Class Field Theory*.
- 2019 – 2020 • **M.Sc. Fundamental Mathematics, Université Rennes 1** (First year) Rennes, France,  
Supervisor: Ludovic Marquis,  
Thesis title: *Tessellations of the Hyperbolic Plane*.
- 2018–2019 • **Exchange year in the department of Mathematics, Sapienza Università di Roma**  
Rome, Italy.
- 2017 – 2019 • **Bachelor in Mathematics, Sorbonne Université** Paris, France.

## Teaching

### Università di Palermo

- Let's create an app (Editions in 2024 and 2025) - Introduction to JavaScript app creation for high school students

### Vrije Universiteit

- Algorithms in Sequence Analysis, Master Course (2023) - **Teaching Assistant**.

### Université de Paris

- Undergraduate Algebra, third year (2021) - **Teaching Assistant**.
- Undergraduate Algebra, second year (2021) - **Teaching Assistant**.
- Undergraduate Analysis, third year (2021) - **Teaching Assistant**.
- Undergraduate Analysis, second year (2021) - **Teaching Assistant**.

### Association Science Technologie et Santé

- Introduction to programming with "Scratch" - Elementary school supervision for scientific activities.

## Professional service

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### Program Committee Memberships

- IEEE International Conference on Bioinformatics and Biomedicine (BIBM 2023).

### Reviewing

- Prague Stringology Conference (PCS 2025) - **Subreviewer**.
- Annual Symposium on Combinatorial Pattern Matching (CPM 2025) - **Subreviewer**.
- Symposium on Experimental Algorithms (SEA 2025) - **Subreviewer**.
- Workshop on Algorithms in Bioinformatics (WABI 2024) - **Subreviewer**.
- Annual Symposium on Combinatorial Pattern Matching (CPM 2024) - **Subreviewer**.
- Symposium on String Processing and Information Retrieval (SPIRE 2023) - **Subreviewer**.
- Annual Symposium on Combinatorial Pattern Matching (CPM 2023) - **Subreviewer**.
- Workshop on Algorithms in Bioinformatics (WABI 2022) - **Subreviewer**.

### Organising Committee Memberships

- Symposium on String Processing and Information Retrieval (SPIRE 2023).
- European Symposium on Algorithms (ALGO 2023).

## PhD Courses, schools, and workshops

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- Landelijk Netwerk Mathematische Beslikunde - "Randomized Algorithms" (2023).
- Winter School - "Collaborating with wet-lab biologists" (2023).
- Landelijk Netwerk Mathematische Beslikunde - "Networks and Semidefinite Programming" (2022).
- Annual ALPACA Workshop - "Pan-genome sequencing and analysis" (2022).
- Summer School - "Algorithmic techniques in pan-genomics" (2022).
- Landelijk Netwerk Mathematische Beslikunde - "Integer Programming Methods" (2021).
- Annual ALPACA Workshop - "Challenges of computational pan-genomics" (2021).

## Research Grants





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- Marie Skłodowska-Curie Innovative Training Network (MSCA-ITN-2020) on ALgorithms for PAngenome Computational Analysis (ALPACA) – Role: Early Stage Researcher.

## Research Publications

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### Journal Articles


- [2] Estéban Gabory, Njagi Moses Mwaniki, Nadia Pisanti, Solon P. Pissis, Jakub Radoszewski, Michelle Sweering, and Wiktor Zuba, "Elastic-degenerate string comparison," *Inf. Comput.*, vol. 304, p. 105 296, 2025.  DOI: 10.1016/J.IC.2025.105296.  URL: <https://doi.org/10.1016/j.ic.2025.105296>.
- [4] Giulia Bernardini, Estéban Gabory, Solon P. Pissis, Leen Stougie, Michelle Sweering, and Wiktor Zuba, "Elastic-degenerate string matching with 1 error or mismatch," *Theory of Computing Systems*, Sep. 2024, ISSN: 1433-0490.  DOI: 10.1007/s00224-024-10194-8.  URL: <https://doi.org/10.1007/s00224-024-10194-8>.

- [6] Esteban Gabory, Moses Njagi Mwaniki, Nadia Pisanti, Solon P. Pissis, Jakub Radoszewski, Michelle Sweering, and Wiktor Zuba, “Pangenome comparison via ed strings,” *Frontiers in Bioinformatics*, vol. 4, 2024, ISSN: 2673-7647.  DOI: 10.3389/fbinf.2024.1397036.  URL: <https://www.frontiersin.org/journals/bioinformatics/articles/10.3389/fbinf.2024.1397036>.

## Conference Proceedings

- [3] Rocco Ascone, Giulia Bernardini, Alessio Conte, Massimo Equi, Estéban Gabory, Roberto Grossi, and Nadia Pisanti, “A Unifying Taxonomy of Pattern Matching in Degenerate Strings and Founder Graphs,” in *24th International Workshop on Algorithms in Bioinformatics (WABI 2024)*, Solon P. Pissis and Wing-Kin Sung, Eds., ser. Leibniz International Proceedings in Informatics (LIPIcs), vol. 312, Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2024, 14:1–14:21, ISBN: 978-3-95977-340-9.  DOI: 10.4230/LIPIcs.WABI.2024.14.  URL: <https://drops.dagstuhl.de/entities/document/10.4230/LIPIcs.WABI.2024.14>.
- [5] Esteban Gabory, Chang Liu, Grigorios Loukides, Solon P. Pissis, and Wiktor Zuba, “Space-efficient indexes for uncertain strings,” in *2024 IEEE 40th International Conference on Data Engineering (ICDE)*, 2024, pp. 4828–4842.  DOI: 10.1109/ICDE60146.2024.00367.
- [7] Esteban Gabory, Moses Njagi Mwaniki, Nadia Pisanti, Solon P. Pissis, Jakub Radoszewski, Michelle Sweering, and Wiktor Zuba, “Comparing Elastic-Degenerate Strings: Algorithms, Lower Bounds, and Applications,” in *34th Annual Symposium on Combinatorial Pattern Matching (CPM 2023)*, Laurent Bulteau and Zsuzsanna Lipták, Eds., ser. Leibniz International Proceedings in Informatics (LIPIcs), vol. 259, Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2023, 11:1–11:20, ISBN: 978-3-95977-276-1.  DOI: 10.4230/LIPIcs.CPM.2023.11.  URL: <https://drops.dagstuhl.de/opus/volltexte/2023/17965>.
- [8] Estéban Gabory, Eric Rivals, Michelle Sweering, Hilde Verbeek, and Pengfei Wang, “Periodicity of degenerate strings,” in *Proc. of 26th Prague Stringology Conference*, Jan Holub and Solon Pissis, Eds., ISBN: 978-80-01-07206-6, Faculty of Information Technology, Czech Technical University in Prague, Prague, Czech Republic: Czech Technical University in Prague, Aug. 2023, pp. 42–56.
- [9] Giulia Bernardini, Alessio Conte, Esteban Gabory, Roberto Grossi, Grigorios Loukides, Solon P. Pissis, Giulia Punzi, and Michelle Sweering, “On Strings Having the Same Length-k Substrings,” in *33rd Annual Symposium on Combinatorial Pattern Matching (CPM)*, Prague, Czech Republic, 2022.  DOI: 10.4230/LIPIcs.CPM.2022.16.  URL: <https://inria.hal.science/hal-03829979>.
- [10] Giulia Bernardini, Esteban Gabory, Solon P. Pissis, Leen Stougie, Michelle Sweering, and Wiktor Zuba, “Elastic-degenerate string matching with 1 error,” in *LATIN 2022: Theoretical Informatics*, Armando Castañeda and Francisco Rodríguez-Henríquez, Eds., Cham: Springer International Publishing, 2022, pp. 20–37, ISBN: 978-3-031-20624-5.  DOI: 10.1007/978-3-031-20624-5\_2.

## Preprints

- [1] Gabriele Fici and Estéban Gabory, *Generalized de bruijn words, invertible necklaces, and the burrows-wheeler transform*, 2025. arXiv: 2502.12844 [math.CO].  URL: <https://arxiv.org/abs/2502.12844>.