Curriculum Vitae of GABRIELE VANONI

Personal Information

- Date of birth: 04/06/1994
- Nationality: Italian
- Website: `http://vanoni.me/`
- Email: `vanonigabriele@gmail.com`
- Affiliation: IRIF, CNRS, Université Paris Cité, France

Work Experience

11/2025- IRIF, CNRS, UNIVERSITÉ PARIS CITÉ
Postdoctoral Fellow (Île-de-France QuanTiP grant). Advisor: Claudia Faggian
Topic: Quantum Optimization in Bayesian Programming Inference

09/2023-10/2025 IRIF, CNRS, UNIVERSITÉ PARIS CITÉ
Postdoctoral Fellow (MathInGP Cofund Marie Skłodowska-Curie/FSMP grant). Advisor: Delia Kesner
Topic: Quantitative Syntax and Semantics of Programming Languages

09/2022-08/2023 INRIA SOPHIA ANTIPOLIS
Postdoctoral Researcher, Equipe Focus. Advisor: Martin Avanzini
Topic: Formal Complexity Analysis of Randomized and Cryptographic Algorithms

Education

02-06/2022 YALE UNIVERSITY
Visiting Assistant in Research (Marie Skłodowska-Curie Research and Innovation Staff Exchange)
Topic: Coeffects and Certified Abstraction Layers. Advisor: Prof. Zhong Shao

2018-2022 UNIVERSITÀ DI BOLOGNA
PhD in Computer Science and Engineering. Grade: Excellent cum Laude, June 2022
Thesis: On Reasonable Space and Time Cost Models for the λ-Calculus. Advisor: Prof. U. Dal Lago

2016-2018 POLITECNICO DI MILANO
Master of Science in Computer Science and Engineering. Grade: 110/110 cum Laude, October 2018
Thesis: On Randomised Strategies in the λ-calculus. Advisor: Prof. Ugo Dal Lago

2013-2016 POLITECNICO DI MILANO
Bachelor of Science in Computer Science and Engineering. Grade: 110/110 cum Laude, July 2016
Final project in Software Engineering. Advisor: Prof. Carlo Ghezzi

2008-2013 LICEO SCIENTIFICO STATALE PAOLO FRISI
"Diploma di maturità scientifica P.N.I.", July 2013

Teaching

2024-2025 UNIVERSITÉ PARIS CITÉ
Adjunct Professor for the "Proofs and Programs: Advanced Tools" course, 24 hours

2023-2024 UNIVERSITÉ PARIS CITÉ
Adjunct Professor for the "Proofs and Programs: Classical Tools" course, 24 hours

2020-2021 UNIVERSITÀ DI BOLOGNA
Laboratory tutor for the "Algorithms and Data Structure in Biology" course, 30 hours

2019-2022 UNIVERSITÀ DI BOLOGNA
Teaching assistant for the "Optimization" course, 16 hours

2019-2022 UNIVERSITÀ DI BOLOGNA
Laboratory tutor for the "Logic for Computer Science" course, 16 hours

2017 POLITECNICO DI MILANO
Laboratory tutor for the "Software Engineering" course, 30 hours

(Co-)supervised students: Oscar Barreca (B.Sc.). Thesis: Compression of Labeled Spine Trees, Yoan Bouniard (M.Sc.) Thesis: Multi types and Garbage Collection. Giacomo Gatti (M. Sc.). Thesis: Compiling Probabilistic Programs to Quantum Circuits.

Research Projects

2019-2022 Member of the ERC Consolidator project Diapason

2019- Member of the International Research Network - Linear Logic

2018-2022 Member of the joint INRIA/JSPS project Crecogi

2022-2024 Member of the ANR project - Probabilistic Program Semantics

Research Visits

2024 University of Porto, visiting Miguel Ramos, two weeks.

2024 University of Tokyo, visiting Ken Sakayori, one week.

2023 LIP, ENS Lyon, visiting Lê Thành Dũng Nguyễn, one week.

2022 IRIF, Université Paris Cité, visiting Claudia Faggia, one week.

2022 BUCS, Boston University, visiting Marco Gaboardi, one week.

2020 DMFI, Università di Udine, visiting Pietro di Gianantonio, one week.

2020 LIPN, Université Sorbonne Paris Nord, visiting Damiano Mazza, five months.

2019 RIMS, Kyoto University, visiting Koko Muroya, one week.

Service to the Community

- Co-chair of Student Volunteers at ICFP 2024 (CORE rank A).
- Member of the programme committee of PPDP 2024 (CORE rank C), POPL 2025 (CORE rank A*).
- Reviewer for FSCD 2019, LICS 2020, FoSSaCS 2021, ICALP 2021, PPDP 2021, MFPS 2022, CSL 2022, FSCD 2023, FCT 2023, FSCD 2024, PPDP 2025, CSL 2025, LMCS, TCS.
- Co-organizer of the Workshop "Directions and perspectives in the λ-calculus". Bologna, 2024.
- Member of the Artifact Evaluation Committee of ICFP 2021 (CORE rank A), POPL 2024 (CORE rank A*).
- Member of Italian Association of Logics and Applications, IC-EATCS.
- Member of the council of the degree programme in Computer Science and Engineering. Politecnico di Milano, 2015-2018.

Grants, Honours, and Awards

- Winner of the Ackermann Award for Outstanding Dissertation in Logic in Computer Science 2023 (awarded by EACLS).
- Winner of the E.W. Beth Dissertation Prize 2023 (awarded by FoLLI).

- Best Italian PhD thesis in theoretical computer science 2023 (awarded by the Italian Chapter of EATCS).
- Invited speaker at TLLA 2023, DCM 2023, SCALP 2025.
- MathInGreaterParis Postdoctoral Fellowship (2023-2025).
  Cofunded by Marie Skłodowska-Curie Actions and FSMP. ~140k€
- DIM Quantip Postdoctoral Fellowship (2025-2026). ~65k€
- PhD Scholarship, funded by Italian Ministry of Research. ~80k€
- Winner of the Distinguished Paper Award at ICFP 2022.
- Paper selected for international journals special issues at LICS 2022, ICFP 2022, ICTCS 2018, ICTCS 2023, STACS 2025.

Other Skills

LANGUAGES: Italian (mother tongue), English (C2), French (B2).

Publications

Authors are listed in alphabetical order. Number of A* publications: 5. Number of A publications: 4.

PhD Thesis

Gabriele Vanoni. On Reasonable Space and Time Cost Models for the λ-Calculus. *Università di Bologna*, 2022.

International Journals

1. Zeinab Galal, Francesco Gavazzo, Riccardo Treglia and Gabriele Vanoni
   Monadic Intersection Types, Relationally and Ordered
   Accepted in TOPLAS.
2. B. Accattoli, G. Manzonetto, A. Lancelot and G.Vanoni.
   Interaction Equivalence.
   *PACMPL Vol. 9 (POPL), 202*5. CORE rank A*.
3. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   Reasonable Space for the λ-Calculus, Logarithmically
   Logical Methods in Computer Science, Volume 20, Issue 4, 15:1–15:57, 2024.
4. Martin Avanzini, Gilles Bathes, Benjamin Gregoire, Georg Moser and Gabriele Vanoni
   Hopping Proofs of Expectation-Based Properties: Applications to Skiplists and Security Proofs
   PACMPL Vol. 8 (OOPSLA), 2024. CORE rank A.
5. Claudia Faggian, Daniele Pautasso and Gabriele Vanoni.
   Higher-Order Bayesian Networks, Exactly.
   PACMPL Vol. 8 (POPL), 2024. CORE rank A*.
6. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   Multi Types and Reasonable Space
   PACMPL Vol. 6 (ICFP), 2022. **Winner of the Distinguished Paper Award. Selected for the JFP Special Issue.** Core rank A.
7. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   The (In)Efficiency of Interaction
   PACMPL Vol. 5 (POPL), 2021. CORE rank A*.
8. Ugo Dal Lago and Gabriele Vanoni
   On randomised strategies in the λ-calculus
   Theoretical Computer Science, 813:100-116, 2020.

Conference Proceedings

1. Lê Thành Dũng Nguyễn and Gabriele Vanoni
   Slightly Non-Linear Higher-Order Tree Transducers
   Proceedings of 42nd STACS, 2025. **Selected for the LMCS Special Issue.** CORE rank A.
2. Francesco Gavazzo, Riccardo Treglia and Gabriele Vanoni
   Monadic Intersection Types, Relationally
   Proceedings of ESOP 2024. **Nominated for the Best Paper Award.** CORE rank A.
3. Ugo Dal Lago and Gabriele Vanoni
   (Not So) Boring Abstract Machines.
   Proceedings of the 24th ICTCS, 2023. **Selected for the TCS Special Issue.**
4. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   Reasonable Space for the λ-Calculus, Logarithmically
   Proceedings of the 37th LICS, 2022. **Selected for the LMCS Special Issue.** CORE rank A*.
5. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   The Space of Interaction
   Proceedings of the 36th LICS, 2021. CORE rank A*.
6. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   The Machinery of Interaction
   Proceedings of the 22nd PPDP, 2020.

7. Ugo Dal Lago and Gabriele Vanoni
   On Randomised Strategies in the λ-Calculus
   Proceedings of the 19th ICTCS, 2018. **Selected for the TCS Special Issue.**

Others

1. Francesco Gavazzo, Riccardo Treglia and Gabriele Vanoni
   Monadic Intersection Types, Relationally
   29th International Conference on Types for Proofs and Programs, 2023.
2. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   A Log-Sensitive Encoding of Turing Machines in the λ-Calculus
   Unpublished, 2023.
3. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   Interacting Seems Unreasonable, in Time and Space
   Workshop on Intersection Types and Related Systems, 2021.
4. Beniamino Accattoli, Ugo Dal Lago and Gabriele Vanoni
   The Geometry of Abstract Machines
   Workshop on Trends in Linear Logic and Applications, 2019.

Invited Seminars

1. Higher-Order Bayesian Networks. École Polytechnique, December 2024.
2. Computational complexity, Compositionality and the λ-Calculus. IHES, October 2023.
3. Monadic Intersection Types, CHoCoLa Seminar, May 2023.
4. λ-Calculus and Reasonable Space, IRIF, November 2022.
5. Reasonable Space for the λ-Calculus, Logarithmically, Boston University, May 2022.
6. The Time and Space of Interaction, Rencontres CHoCoLa, April 2021.
7. On Higher-Order (In)Efficiency, Université Sorbonne Paris Nord, October 2020.
8. The Complexity of Interaction Abstract Machines, University of Bath, June 2020.
9. The Complexity of Interaction Abstract Machines, École polytechnique, June 2020.
10. The Complexity of Interaction Abstract Machines, Université Sorbonne Paris Nord, April 2020.
11. The Geometry of Abstract Machines, Kyoto University, July 2019.