

Romain Bourneuf

Master 2 student at ENS de Lyon

✉ romain.bourneuf@ens-lyon.fr

☎ +33 6 80 17 92 61

🌐 My Website



Education

📅 2022 – 2023

Master's Degree in Computer Science, second year (ENS de Lyon, France)

Fundamental Computer Science

Graph Decompositions, Algorithmic Aspects of Combinatorics, Geometric Graphs, WQOs, Polynomials in Combinatorics and Complexity.

Graduated with highest honors, ranked first.

📅 2021 – 2022

Master's Degree in Computer Science, first year (ENS de Lyon, France)

Fundamental Computer Science

Graphs of High Chromatic Number, Parallel & Distributed Algorithms, Optimization & Approximation, Algebra, Number Theory, Computational Complexity, Cryptography, Quantum Computing.

Graduated with highest honors, ranked first.

📅 2020 – 2021

Bachelor's Degree in Computer Science (ENS de Lyon, France)

Fundamental Computer Science

Algorithmics, Probability, Algebra, Logic, Programming, Topology, Computability.

Graduated with highest honors, ranked first.

📅 2018 – 2020

Scientific Preparatory Class MPSI and MP* (Rennes, France)

Mathematics, Physics, Computer Science.

Research Internships

📅 September 2023 – February 2024

Decomposing graphs into 3-connected components.

Supervision: Under Johannes Carmesin, University of Birmingham, Birmingham.

About: Studying the decomposition of graphs into 3-connected components, both structurally and algorithmically.

📅 February 2023 – July 2023

Polynomial χ -Boundedness of Graphs of Bounded Twin-Width.

Supervision: Under Stéphane Thomassé, ENS de Lyon, Lyon.

About: Studying various properties of structures of bounded twin-width, especially the connection between the clique number and the chromatic number of such graphs.

📅 Summer 2022, 4 months

TFNP and Extremal Combinatorics.

Supervision: Under Alon Rosen, Bocconi University, Milan.

About: Understanding the complexity of search problems related to extremal combinatorics.

📅 Summer 2021, 6 weeks

Brandes' Algorithm for Betweenness Centrality in a Graph.

Supervision: Under Marthe Bonamy, LaBRI, Bordeaux.

About: Looking for fast algorithms to calculate betweenness centrality in various classes of graphs.

Research Publications

5. **On polynomial degree-boundedness**, with Matija Bucić, Linda Cook and James Davies, preprint.
4. **Factoring Pattern-Free Permutations into Separable ones**, with Édouard Bonnet, Colin Geniet and Stéphan Thomassé, *SODA 2024*.
3. **A tamed family of triangle-free graphs with unbounded chromatic number**, with Édouard Bonnet, Julien Duron, Colin Geniet, Stéphan Thomassé and Nicolas Trotignon, preprint.
2. **Bounded twin-width graphs are polynomially χ -bounded**, with Stéphan Thomassé, preprint.
1. **PPP-Completeness and Extremal Combinatorics**, with Lukáš Folwarczný, Pavel Hubáček, Alon Rosen and Nikolaj Ignatieff Schwartzbach, *ITCS 2023*.

Conferences & Workshops

Conferences

- Innovations in Theoretical Computer Science, ITCS 2023, MIT.
PPP-Completeness and Extremal Combinatorics.

Workshops as a speaker

- 3rd Workshop on Complexity and Algorithms, CoA 2023, Paris.
PPP-Completeness and Extremal Combinatorics.
- FPT Fest in the honour of Mike Fellows, Bergen, 2023.
Bounded twin-width graphs are polynomially χ -bounded.
- 1st workshop on twin-width, Aussois, 2023.
Bounded twin-width graphs are polynomially χ -bounded.

Workshops as a non-speaker

- Structural Graph Theory Workshop, Będlewo, 2023.
- Structural Graph Theory Bootcamp, Warsaw, 2023.
- Digraphs meeting, Sète, 2023.
- Milan Theory Workshop, Bocconi, 2022.

References

Marthe Bonamy

CNRS Researcher
LaBRI,
Bordeaux, France.

✉ marthe.bonamy@u-bordeaux.fr

🌐 [Marthe's personal page](#)

Stéphan Thomassé

Professor
ENS de Lyon,
Lyon, France.

✉ stephan.thomasse@ens-lyon.fr

🌐 [Stéphan's personal page](#)