

Victor Seixas Souza

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Mathematician

Trinity College, Cambridge.

Current Position

2020 – Now **PhD in Pure Mathematics**, *University of Cambridge, United Kingdom.*
SUPERVISOR: Prof. Béla Bollobás.

Research Interests

- Arithmetic Combinatorics and Number Theory.
- Extremal and Probabilistic Combinatorics.
- Statistical Mechanics.
- Synchronisation Phenomena.

Education

2019 – 2020 **MASt. in Pure Mathematics**, *University of Cambridge, United Kingdom.*
Part III of the Mathematical Tripos.

2017 – 2019 **MSc. in Pure Mathematics**, *IMPA, Brazil.*
SUPERVISOR: Prof. Rob Morris.

2013 – 2014 **Visiting Student**, *Faculty of Science, University of Alberta, Canada.*
SUPERVISOR: Prof. Byron Schmuland.

2011 – 2016 **BSc. in Computer Engineering**, *State University of Campinas, Brazil.*
SUPERVISOR: Prof. Christiane Campos.

Publications

- 2023 **Localised graph Maclaurin inequalities.**
[Annals of Combinatorics](#)
with L. Aragão.
- 2022 **Expander graphs are globally synchronising.**
[arXiv Preprint \(Submitted\)](#)
with P. Abdalla, A. Bandeira, M. Kassabov, S. Strogatz and A. Townsend.
- 2022 **On the Zero-Sum Ramsey Problem over \mathbb{Z}_2^d .**
[LATIN 2022: Theoretical Informatics \(Conference paper\)](#)
with J. Alvarado, L. Colucci and R. Parente.
- 2022 **A note on the number of Egyptian fractions.**
[arXiv Preprint \(Submitted\)](#)
with N. Lebowitz-Lockard.
- 2022 **Improved bounds for the dimension of divisibility.**
[arXiv Preprint \(Submitted\)](#)
with L. Versteegen.
- 2022 **Hitting times for arc-disjoint arborescences in random digraph processes.**
[Proceedings of the XI LAGOS Symposium \(Conference paper\)](#)
with M. Collares, Y. Kohayakawa, T. Martins and R. Parente.

- 2021 **The Maker-Breaker percolation game on the square lattice.**
Journal of Combinatorial Theory, Series B (Accepted)
with V. Dvořák and A. Mond.
- 2021 **The Typical Structure of Sets with Small Sumset.**
International Mathematics Research Notices
with M. Campos, M. Collares, R. Morris and N. Morrison.
- 2020 **The order dimension of divisibility.**
Journal of Combinatorial Theory, Series A
with D. Lewis.
- 2020 **Blowup Ramsey numbers.**
European Journal of Combinatorics

Scholarships

- 2020 – 2024 **Trinity Internal Graduate Funding**, *Trinity College, Cambridge, United Kingdom.*
Funding for the PhD in Pure Mathematics.
- 2019 – 2020 **Trinity Studentship in Mathematics**, *Trinity College, Cambridge, United Kingdom.*
Funding for the Part III of the Mathematical Tripos.
- 2017 – 2019 **CAPES Academic Excellence Scholarship**, *IMPA, Brazil.*
For the Masters in Pure Mathematics.
- 2015 – 2015 **FAPESP Undergraduate Research**, *State University of Campinas, Brazil.*
SUBJECT: Cover times of random walks on graphs.
SUPERVISOR: Prof. Serguei Popov.
- 2013 – 2014 **CNPQ Science without Borders Exchange**, *University of Alberta, Canada.*
SUBJECT: Random walks on finite graphs.
SUPERVISOR: Prof. Byron Schmuland.

Summer Schools

- 2022 **Graphs, Groups, Stochastic Processes**, *Renyi Institute, Hungary.*
- 2021 **Applications of Expander Graphs to Number Theory and Computer Science**,
University of North Carolina Greensboro, United States. (Online).
- 2020 **Optimization, Interpolation and Modular Forms**, *EPFL, Switzerland. (Online).*
- 2018 **XXII Brazilian School of Probability**, *IMPA, Rio de Janeiro.*
- 2017 **XXI Brazilian School of Probability**, *PUC Rio, Rio de Janeiro.*
- 2017 **Random Graphs and Probabilistic Methods**, *Fields Institute, Canada.*
Funded by the Fields Institute.
- 2016 **School of Advanced Science on Algorithms, Combinatorics and Optimization**,
University of São Paulo, Brazil.