Victor Seixas Souza

✉ vss28@cam.ac.uk

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.
- ○ Random Graphs and Networks.
- ○ 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 Mathemathics,** *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.

Publictations

2023   **Localised graph Maclaurin inequalities.**
arXiv Preprint
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 Academical 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.*

(Last updated: April 2023)