Gabriele Lobbia

Postdoc in Mathematics

✉ *lobbia@math.muni.cz*
🏠 *https://globbia.github.io/*
ORCID *0000-0002-2732-0317*

Professional Experience

Jan 2022–	**Postdoctoral Researcher**, *Masaryk University*, Brno, Czech Republic.
Aug-Dec 2021	**Part-Time Researcher**, *Masaryk University*, Brno, Czech Republic, working with John Bourke on skew monoidal categories, multicategories and connections with higher dimensional categories.
Feb 2017	**Substitute Teacher**, *Liceo Falcone Borsellino*, Arese (MI), Italy.

Education

2018–2022	**PhD in Mathematics**, *School of Mathematics*, University of Leeds, UK.
	Funded by an EPSRC Scholarship, Oct 2018 – Feb 2022,
	Supervisors: Dr. N. Gambino and Prof. P. Martin
	Thesis Title: Pseudomonads, Relative Monads and Strongly Finitary Notions of Multicategory
	Defense: 28 February 2022, Leeds, UK
	Examiners: Prof. M. Fiore and Dr. J. Faria Martins
2016–2018	**ALGANT Master Program Degree (M.S.)**.
	Università degli studi di Milano 110/110 cum laude, Universität Regensburg 1.0/1.0
	Advisor: Prof. Dr. Denis-Charles Cisinski
	Thesis Title: Kan Complexes as a Univalent Model of Type Theory
2013–2016	**Laurea Triennale in Matematica (B.S.)**, *Università degli studi di Milano*, 110/110.

Research Interests

Category theory, higher category theory, universal algebra, multicategories, monoidal categoris, skew structures, categorical logic.

Publications and Preprints

*2022	**A skew approach to enrichment for Gray-categories**
	with John Bourke, submitted to *Advances in Mathematics*, preprint `arXiv:2212.12358`.
*2022	**KZ-monads and Kan Injectivity**
	with Ivan Di Liberti and Lurdes Sousa, submitted to *Theory and Applications of Categories*, preprint `arXiv:2211.00380`.
2023	**Ditributive laws for relative monads**
	Applied Categorical Structures, 37 (19), preprint available at `arXiv:2007.12982`.
2021	**On the formal theory of pseudomonads and pseudodistributive laws**
	with Nicola Gambino, *Theory and Applications of Categories*, 37 (2), pp. 14-56.

Scholarships, Awards and Grants

2018–2022	EPSRC Scholarship

Conference Talks

2023 **A Skew Approach to Enrichment for Gray-categories**, PSSL 107, Athens, contributed, April.

2022 **Kan Injectivity and KZ-monads**, SYCO 9, Como, contributed, September.

2021 **Finitary Definitions of Multicategory**, CT20→21, Genova, contributed, September.

2019 **The Formal Theory of Pseudomonads**, 1st ItaCa Workshop, Milano, contributed, December.

The Formal Theory of Pseudomonads, Postgraduate Conference in Category Theory and its Applications, Leicester, invited, November.

Seminar Talks

2023 **A skew approach to enrichment for Gray-categories Part 2**, Masaryk University Algebra Seminar, contributed, April.

2022 **KZ-monads and Kan injectivity**, Masaryk University Algebra Seminar, contributed, May.

2021 **A nice picture of 2-cats**, Se Mi Narri, Pavia online, invited, March.

2020 **Distributive laws for relative monads**, Masaryk University Algebra Seminar, Brno online, invited, December.

Monoidal Categories vs Multicategories, Postgraduate Logic seminar, Leeds online, contributed, November.

Distributive laws for relative monads, Virtual Logic Seminar, Leeds online, contributed, June.

Everything is connected, everything is Yoneda, Pure Postgraduate seminar, Leeds, contributed, February.

A Formal Approach to Generalisations of Monads, Category Theory Seminar, Cambridge, invited, January.

2019 **The Formal Theory of Pseudomonads**, Proofs, computations and constructions, Leeds, contributed, November.

A nice picture of 2-cats, Pure Postgraduate Seminar, Leeds, contributed, March.

2018 **Kan Complexes as a Univalent Model of Type Theory**, Postgraduate Logic seminar, Leeds, contributed, October.

Conferences, Workshops and Summer/Winter Schools

2023 **PSSL 107** (Peripatetic Seminar on Sheaves and Logic), Athens, 2-3 April (contributed talk).

2022 **3rd ItaCa Workshop**, Pisa, 21-22 December.

SYCO 9 (Symposium on Compositional Structures), Como, 8-9 September (contributed talk).

Bicategories, Categorification and Quantum Theory (Summer School), Leeds, 11-15 July.

TACL 2022 (Topology, Algebra and Categories in Logic), Coimbra, 20-24 June.

PSSL 106 (Peripatetic Seminar on Sheaves and Logic), Brno, 14-15 May.

ItaCa Fest 2022, online, April-November.

2021 **2nd ItaCa Workshop**, Genova, 20-21 December.

CT20→21, Genova, 30 August-4 September.

ItaCa Fest 2021, online, April-June.

2020 **ItaCa Fest 2020**, online, June-December.

2019 **1st ItaCa Workshop**, Milano, 19-20 December (contributed talk).

SYCO 6 (Symposium on Compositional Structures), Leicester, 16-17 December.

Postgraduate Conference in Category Theory and its Applications, Leicester, 18-19 November (invited talk).

CT 2019, Edinburgh, 7-13 July.

Higher Topos Theory and Univalent Foundations (Summer School), Leeds, 24-28 June.
PSSL 105 (Peripatetic Seminar on Sheaves and Logic), Palermo, 18-19 May.

Teaching Experience

2019–2021 **Teaching assistant**, University of Leeds
- MATH1400 Modelling with Differential Equations, tutorials (≈ 10 students), Spring 2020;
- MATH1060 Introductory Linear Algebra, tutorials (≈ 10 students), Spring 2020;
- MATH2022 Groups and Vector Spaces, workshops (≈ 40 students) Autumn 2019, marking/drop-in sessions Autumn 2020;
- MATH1225 Introduction to Geometry, tutorials (≈ 10 students), Autumn 2019;
- MATH3044 Number Theory, marking, Spring 2019;
- MATH1026 Sets, Sequences and Series, tutorials (≈ 10 students), Spring 2019, 2021.

Feb 2017 **Substitute Teacher** for a first year and a second year Scientifico classes and a first year Linguistico class, Liceo Scientifico e Linguistico " G. Falcone – P. Borsellino" (Arese, MI, Italy)

Other Professional Experience

2023– **Reviewer** for *Higher Structures*.
May 2022 **Organising Committee**, PSSL 106 (Peripatetic Seminar on Sheaves and Logic), Brno.
2020– **Social media manager** of ItaCa, the Italian community of category theory.
2019-2021 **Co-organiser** of the Pure Postgraduate Seminar, Leeds.
June 2019 **Organising Committee**, Higher Topos Theory and Univalent Foundations Summer School, Leeds.

Professional Memberships

2018–2021 Student member of the Association for Symbolic Logic

Computer Skills

Languages LaTeX, C
Platforms Windows

Languages

Italian Native
English Fluent