

Andrew Slattery

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Employment

Apr 2024 –

University of Cambridge

Research Associate

- Supervisor: Dr Jon Sterling
- Funding provided by US Air Force Grant FA95502310728 ‘New spaces for denotational semantics’
- Extending the reach of denotational semantics with a homotopical and geometrical understanding of computation via higher dimensional category theory and topos theory

Education

Oct 2020 – Mar 2024

University of Leeds

PhD in Category Theory

- Funding provided by EPSRC Scholarship
- Supervisors: Dr Nicola Gambino, Dr Andrew Brooke-Taylor
- Thesis Title: Commutativity of Relative Pseudomonads

Oct 2019 – Jun 2020

University of Cambridge

Masters of Mathematics (Part III) – Pass

Oct 2016 – Jun 2019

University of Cambridge

Bachelor of Arts in Mathematics – First

Research interests

My research is in higher category theory and its applications to logic and computer science. I am particularly interested in the use of categorical structures such as higher-dimensional multicategories, pseudoadjunctions and pseudoalgebras in contexts such as topos theory and fibred categories.

Papers

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| 2025 | 1. Arkor, N., Saville, P. & Slattery, A. Bicategories of algebras for relative pseudomonads. <i>preprint</i> (2025). |
| 2023 | 3. Slattery, A. Pseudocommutativity and lax idempotency for relative pseudomonads. <i>Theory and Applications of Categories</i> (2023). |

Talks and Posters

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| 2025 | | Logic in Computer Science (LICS) 40 , Singapore
<i>Hofmann–Streicher lifting of fibred categories</i> |
| 2024 | | Category Theory 2024 , Santiago de Compostela
<i>Bicategories of algebras for relative pseudomonads</i> (poster) |
| 2023 | | University of Manchester Category Theory Seminar , Manchester
<i>Presheaf Algebras are Cocomplete Categories</i>
Category Theory 2023 , Louvain-la-Neuve
<i>Pseudocommutativity and lax idempotency for relative pseudomonads</i> (poster)
107th Peripatetic Seminar on Sheaves and Logic (PSSL) , Athens
<i>Pseudocommutativity for relative pseudomonads</i> |
| 2022 | | Yorkshire and Midlands Category Theory Seminar 27 , Leeds
<i>Property-like structures and relative pseudomonads</i> |
| 2021 | | ‘Proofs, Constructions, Computations and Categories’ seminar , Leeds
<i>The 2-category of algebras over a relative 2-monad</i>
Postgraduate Logic Seminar , Leeds
<i>Well-quasiorders and Kruskal’s Tree Theorem</i> |

Teaching and Administrative Work

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| Oct 2024 – | | University of Cambridge
<i>Supervision tutor</i> <ul style="list-style-type: none">• Mathematics Part IB Analysis and Topology• Mathematics Part II Graph Theory |
| Oct 2021 – Mar 2024 | | University of Leeds
<i>Teaching Assistant</i> <ul style="list-style-type: none">• MATH1055 Numbers and Vectors• MATH1050 Calculus and Mathematical Analysis• MATH1026 Sets, Sequences and Series• MATH1060 Introductory Linear Algebra• MATH1025 Number Systems <i>Co-organiser</i> <ul style="list-style-type: none">• Yorkshire and Midlands Category Theory Seminar• ‘Proofs, Constructions, Computations and Categories’ seminar |

Scholarships and Awards

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| Oct 2020 – Apr 2024 | | EPSRC PhD Scholarship |
| 2019 | | Harry Patten Prize for Best Result in Part II Mathematics at Clare |
| 2017 | | Amiya Batterji Prize for Best Result in Part I Mathematics at Clare |