

Clive Newstead

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EMPLOYMENT

Carnegie Mellon University

Assistant Teaching Professor, *Department of Mathematical Sciences* Sep '20 – present

Northwestern University

Lecturer, *Department of Mathematics* Sep '18 – Aug '20

EDUCATION

Carnegie Mellon University

PhD degree in Mathematical Sciences Aug '13 – Aug '18

- Thesis: *Algebraic Models of Dependent Type Theory*, advised by Steve Awodey.

University of Cambridge, Robinson College

MMath degree (Part III of the Mathematical Tripos) Oct '12 – Jun '13

BA degree (Parts IA, IB & II of the Mathematical Tripos) Oct '09 – Jun '12

GRANTS & FELLOWSHIPS

Provost's Inclusive Teaching Fellowship (\$5,000), *Carnegie Mellon University* Jun '21 – May '22

Daniel I. Linzer Grant for Innovation in Diversity and Equity (\$6,200), *Northwestern University* Sep '20 – Aug '21

- Joint with Eric Chang, Aaron Greicius & Maria Nastasescu.

Daniel I. Linzer Grant for Innovation in Diversity and Equity (\$3,800), *Northwestern University* Sep '19 – Aug '20

- Joint with Brett Frankel and Rachael Norton.

AWARDS

Award for Excellence in Teaching, *Department of Mathematics, Northwestern University* Jun '20

Graduate Student Teaching Award, *Carnegie Mellon University* Apr '16

Hugh D. Young Teaching Award, *Mellon College of Science, CMU* Apr '16

Robinson College Prize and Scholarship, *University of Cambridge* Jul '12

Crausaz–Wordsworth Essay Prize, *University of Cambridge* Nov '11

Adrian Knight Prize in Mathematics, *University of Cambridge* Jul '11

TEACHING

Carnegie Mellon University

F = Fall, S = Spring, M or N = Summer

21-127	Concepts of Mathematics	F21, N21, F20, N17, N15
21-254	Linear Algebra and Vector Calculus for Engineers	F21, F20
21-256	Multivariate Analysis	M14
21-259	Calculus in Three Dimensions	S21

Northwestern University

AY = Fa + Wi + Sp (sequence of 3 courses)

Math 211-0	Short Course in Calculus	Sp19
Math 230-B	Multivariable Integral Calculus for SPS	Wi20
Math 290-1,2,3	Linear Algebra and Multivariable Calculus sequence	AY2019–20, AY2018–19
Math 300-0	Foundations of Higher Mathematics	Wi19, Fa18
Math 330-CN	Foundations of Higher Mathematics for SPS	Sp20
Math 330-1,2,3	Abstract Algebra sequence	AY2019–20
Math 330-A	Abstract Algebra for SPS	Fa19

TEXTBOOK

An Infinite Descent into Pure Mathematics

- ISBN 978-1-950125-00-3, expected 2022. Current version accessible at <https://infinitedescent.xyz>.

RESEARCH

My research uses the tools and techniques of category theory to investigate connections between logic, algebra and topology. I am particularly interested in dependent type theory and homotopy type theory.

Publications and preprints

Polynomial pseudomonads and dependent type theory	Feb '18
• Joint work with Steve Awodey. Preprint: arXiv:1802.00997	

CONTRIBUTED TALKS

HoTT/UF 2018, <i>University of Oxford</i>	Jul '18
Homotopy Type Theory MURI meeting, <i>Carnegie Mellon University</i>	Mar '18, Mar '17, Mar '16, Mar '15
Category Theory Octoberfest, <i>Carnegie Mellon University</i>	Oct '17
Teaching and Learning Summit, <i>Carnegie Mellon University</i>	Oct '16
International Category Theory Conference, <i>Dalhousie University</i>	Aug '16
ASL Logic Colloquium, <i>University of Leeds</i>	Aug '16
POD Network Conference, <i>San Francisco, CA</i>	Nov '15
International Category Theory Conference, <i>University of Cambridge</i>	Aug '14
Kan Extension Seminar at CT 2014, <i>University of Cambridge</i>	Aug '14

SERVICE & OUTREACH

Teaching assistant coordinator, <i>Department of Mathematical Sciences, CMU</i>	Mar '21 – present
Hugh D. Young Award Committee, <i>Mellon College of Science, CMU</i>	Mar '21
Academic Review Board, <i>Carnegie Mellon University</i>	Oct '20 – present
University Disciplinary Committee, <i>Carnegie Mellon University</i>	Oct '20 – present
Northwestern Emerging Scholars Program (co-organiser), <i>Northwestern University</i>	Sep '18 – Aug '20
Graduate Teaching Fellow, <i>Eberly Center, CMU</i>	Jan '15 – Aug '18
Graduate Student Advisory Council, <i>Mellon College of Science, CMU</i>	Jun '14 – Aug '18
Graduate Student Teaching Award Selection Committee, <i>Carnegie Mellon University</i>	Feb '18
Graduate Student Assembly (executive board), <i>Carnegie Mellon University</i>	Jun '15 – Sep '17
College Council, <i>Mellon College of Science, CMU</i>	Aug '15 – May '16
Assemble Afterschool, <i>Assemble, Pittsburgh</i>	Feb '14 – May '15
Graduate Student Assembly (representative), <i>Carnegie Mellon University</i>	Sep '13 – May '15
Faculty Board, <i>Faculty of Mathematics, University of Cambridge</i>	Nov '11 – Nov '12
University Library Syndicate, <i>University of Cambridge</i>	Oct '11 – Oct '12
Teaching Committee, <i>Faculty of Mathematics, University of Cambridge</i>	Oct '10 – Jun '13
RCSA Academic Affairs Officer, <i>Robinson College, University of Cambridge</i>	Nov '11 – Nov '12

PROFESSIONAL DEVELOPMENT

Searle Teaching-As-Research (STAR) Program, <i>Searle Center, Northwestern University</i>	Jan '19 – Jun '19
MRC on Homotopy Type Theory, <i>American Mathematical Society, Snowbird, UT</i>	Jun '17
Future Faculty Program, <i>Eberly Center, CMU</i>	Apr '14 – Dec '15