

Clive Newstead

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EDUCATION

PhD in Mathematical Sciences (ongoing), <i>Carnegie Mellon University</i>	Aug 2013 – (present)
BA & MMath in Mathematics, <i>University of Cambridge</i>	Oct 2009 – Jun 2013

TEACHING

Teaching portfolio available upon request

As course instructor

Mathematical Foundations for Computer Science (15-151, SAMS program)	Summer 2017
Concepts of Mathematics (21-127, AP/EA program)	Summer 2015
Multivariate Analysis (21-256)	Summer 2015

As teaching assistant

Mathematical Concepts and Proofs (21-128)	Fall 2016
Mathematical Concepts and Proofs (21-128)	Fall 2015
Calculus in Three Dimensions (21-259)	Fall 2014
Concepts of Mathematics (21-127)	Spring 2014
Differential and Integral Calculus (21-120)	Fall 2013

Professional development

Senior Graduate Teaching Fellow, <i>Carnegie Mellon University</i>	Jan 2017 – May 2018
Graduate Teaching Fellow, <i>Carnegie Mellon University</i>	Jan 2015 – Dec 2016
Future Faculty Program, <i>Carnegie Mellon University</i>	Apr 2014 – Dec 2015

TEXTBOOK

An infinite descent into pure mathematics. Preprint. Current version: Mar 2018, 398 pages. Accessible at www.infinitedescent.xyz. Used by myself and 3 other instructors teach 800+ students at Carnegie Mellon since summer 2015.

AWARDS

University Graduate Student Teaching Award, <i>Carnegie Mellon University</i>	April 2016
Hugh D. Young Teaching Award, <i>Carnegie Mellon University</i>	April 2016
Robinson College Prize and Scholarship, <i>University of Cambridge</i>	July 2012
Crausaz–Wordsworth Essay Prize, <i>University of Cambridge</i>	November 2011
Adrian Knight Prize in Mathematics, <i>University of Cambridge</i>	July 2011

RESEARCH

My research investigates connections between logic, algebra and topology. Using category theoretic tools, I study algebraic structures arising in dependent type theory, and I am also investigating equivalences between ∞ -categorical models of homotopy type theory.

PAPERS

Polynomial pseudomonads and dependent type theory. <i>Joint work with Steve Awodey. Preprint: arXiv:1802.00997.</i>	February 2018
Categories of models of homotopy type theory <i>Joint work with Simon Cho, Cory Knapp and Liang Ze Wong.</i>	expt. early 2018

CONFERENCES AND WORKSHOPS

† indicates conferences where a talk was given

Relating to mathematics

Joint Mathematics Meeting, <i>San Diego, CA</i>	January 2018
†Category Theory Octoberfest, <i>Carnegie Mellon University</i>	October 2017
AMS MRC Workshop on Homotopy Type Theory, <i>Snowbird, UT</i>	June 2017
†Homotopy Type Theory MURI meeting, <i>Carnegie Mellon University</i>	March 2017
†International Category Theory Conference, <i>Dalhousie University</i>	August 2016
†ASL Logic Colloquium, <i>University of Leeds</i>	August 2016
†Homotopy Type Theory MURI meeting, <i>Carnegie Mellon University</i>	March 2016
Workshop on Homotopy Type Theory, <i>Max Planck Institute for Mathematics</i>	February 2016
†Homotopy Type Theory MURI meeting, <i>Carnegie Mellon University</i>	March 2015
Homotopy Type Theory Workshop, <i>University of Oxford</i>	November 2014
International Category Theory Conference, <i>University of Cambridge</i>	August 2014
†Kan Extension Seminar at CT 2014, <i>University of Cambridge</i>	August 2014

Relating to teaching and learning

Teaching and Learning Summit, <i>Carnegie Mellon University</i>	October 2017
†Teaching and Learning Summit, <i>Carnegie Mellon University</i>	October 2016
†POD Network Conference, <i>San Francisco, CA</i>	November 2015

OTHER ACTIVITIES AND SKILLS

Service on committees

MCS Graduate Student Advisory Council, <i>Carnegie Mellon University</i>	Jun 2014 – <i>(present)</i>
MCS College Council, <i>Carnegie Mellon University</i>	Aug 2015 – May 2016
Graduate Student Assembly executive board, <i>Carnegie Mellon University</i>	Jun 2015 – Sep 2017
Graduate Student Assembly representative, <i>Carnegie Mellon University</i>	Sep 2013 – May 2015
Board of the Faculty of Mathematics, <i>University of Cambridge</i>	Nov 2011 – Nov 2012
University Library Syndicate, <i>University of Cambridge</i>	Oct 2011 – Oct 2012
Faculty of Mathematics Teaching Committee, <i>University of Cambridge</i>	Oct 2010 – Jun 2013

Society memberships

American Mathematical Society
Association for Symbolic Logic
Mathematical Association of America

Languages

English (native), French (advanced), Spanish (basic), Russian (basic)

Technology

Programming and scripting: \LaTeX , Github, HTML, PHP, CSS, R, Python
Educational technology: Canvas, Blackboard, Piazza