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PERSONAL INFORMATION:

Citizenship: US/UK

EDUCATION:

California Institute of Technology, Pasadena, CA
B.S. in Mathematics (2008-2012)

Coursework: Algebraic Geometry (Hartshore); Representation Theory (Representations of Finite and Compact Groups, Barry Simon); Elliptic Curves; Algebraic Number Theory; Algebraic Topology (Hatcher); Abstract Algebra: Undergraduate (Dummit and Foote), Graduate (Hungerford, Lang); Real Analysis (Carothers); Complex Analysis (Robert E. Greene); Differential Geometry (Do Carmo); Differential Topology; Discrete Mathematics (Norman Biggs); Error-Correcting Codes; Mathematical Logic; Probability and Statistics; Differential Equations.

University of Chicago, Chicago, IL
Ph.D. in Mathematics (2012-2018)
Advisor: Matthew Emerton
Thesis: Taylor-Wiles-Kisin Patching and the mod-l Langlands Correspondence

Coursework: Real Analysis; Functional Analysis (Brezis); Complex Analysis and Topics in Analysis; Algebraic Topology (Hatcher); Differential Topology; Differential Geometry; Representation Theory; Commutative Algebra and Algebraic Geometry; Topics in Algebra.

EMPLOYMENT:

UCLA: Hedrick Assistant Adjunct Professor (2018-2021)
Max Planck Institute for Mathematics: Postdoctoral Fellow (2021-2022)

RESEARCH EXPERIENCE:

University of Minnesota, Duluth Mathematics REU: Summer 2010
Conducted research under Professor Joseph Gallian on the factorization properties of a class of block monoids. Wrote and submitted a paper for publication. Gave a presentation of research at the 2011 joint math meetings.

University of Minnesota, Duluth Mathematics REU: Summer 2011
  Conducted research under Professor Joseph Gallian on the distinguishing chromatic numbers of graphs embedded in surfaces. Gave a presentation of research at the 2012 joint math meetings.

TEACHING EXPERIENCE:

Mathzoom Summer Camp: Summer 2009
  Worked as a Camp counselor and teaching assistant. Helped teach middle and high school students problem solving for math competitions. Answered student questions and graded student solutions.

Art of Problem Solving: Summer 2009
  Worked primarily as proofreader for a Precalculus text book. Also wrote some math problems for an online teaching system, and preformed various other miscellaneous tasks.

Private Tutoring:
  During college, tutored a variety of high school and college students in math. Subjects taught included the standard high school curriculum, problem solving for math competitions and college level math (including calculus, linear algebra and differential equations).

College Fellow: 2013-2014
  University of Chicago
  Honors Algebra (Math 257,258,259)
   - Instructor: John Boller (Fall term); Anne Shiu (Winter and Spring terms).
   - Textbook: *Abstract Algebra* (Dummit and Foote); *Linear Algebra* (Hoffman and Kunze)

Instructor: 2014-2020
  University of Chicago:
  Calculus (Math 151,152,153)
   -'14-'15 academic year
   - Textbook: *Calculus: One variable* (Salas-Hille-Etgen)
  Math Methods in Social Science (Math 195)
   - Fall '15, Spring '16, Fall '16, Fall '17, Spring '18
   - Textbook: *Multivariable Calculus* (Stewart)
  Linear Algebra (Math 196)
   - Winter '16, Winter '17, Winter '18
   - Textbook: *Linear Algebra with Applications* (Bretscher)

  UCLA:
  Math 110A: Abstract algebra (ring theory) (Fall 2018)

Math 11N: Gateway to Mathematics, Number theory (Winter 2019)
Math 115A: Linear algebra (Winter 2019)
Math 61: Introduction to Discrete Structures (Spring 2019)
Math 61: Introduction to Discrete Structures (Fall 2019)
Math 11N: Gateway to Mathematics, Number theory (Winter 2020)
Math 32A: Calculus of Several Variables (Winter 2020)
Math 115B: Linear Algebra (Spring 2020)
Math 215A: Commutative algebra (Fall 2020)
Math 110A: Abstract algebra (ring theory) (Winter 2021)
Math 110B: Abstract algebra (group theory) (Spring 2021)
Math 11N: Gateway to Mathematics, Number theory (Spring 2021)

AWARDS AND HONORS:

Honorable Mention in Putnam Competition: 2009, 2010
Top 100 in Putnam Competition: 2008
Ryser scholarship (Caltech): 2011 (awarded to undergraduate students for academic excellence)
Lawrence and Josephine Graves Prize for excellence in undergraduate teaching (UChicago): 2016

PUBLICATIONS:

Jeffrey Manning, "EZADS inputs which produce half-factorial block monoids", *Semigroup Forum* Volume 90, Issue 3 (2015) Page 775-799

Jeffrey Manning "Patching and multiplicity 2^k for Shimura curves", Algebra and Number Theory Vol. 15, No. 2, 387-434 (2021)

Jeffrey Manning and Jack Shotton "Ihara's lemma for Shimura curves totally real fields via patching", Math. Ann. 379, 187-234 (2021)

Gebhard Böckle, Chandrashekhar Khare and Jeffrey Manning "Wiles defect for Hecke algebras that are not complete intersections", Compositio Mathematica, 157(9), 2046-2088 (2021)

Gebhard Böckle, Chandrashekhar Khare and Jeffrey Manning "Wiles defect of Hecke algebras via local-global arguments", *submitted*

Jeffrey Manning "Mod l multiplicities in certain U(4) Shimura varieties", *in preparation*

PRESENTATIONS:

"EZADS inputs which produce half-factorial block monoids" (Joint Math Meetings, 2011)
"Distinguishing chromatic numbers of planar maps" (Joint Math Meetings, 2012)

"Multiplicities of Galois representations in the mod-l Cohomology of Shimura curves" (CTNT 2016 Research Conference Elliptic Curves, Modular Forms and Related Topics)
"Taylor-Wiles-Kisin patching and mod l multiplicities in Shimura curves" UMichigan Group, Lie and Number Theory seminar (January 2018)
"Taylor-Wiles-Kisin patching and mod l multiplicities in Shimura curves" Johns Hopkins UniversityNumber Theory seminar (February 2018)
"Taylor-Wiles-Kisin patching and mod l multiplicities in Shimura curves" UC Berkeley Arithmetic Geometry and Number Theory Seminar (September 2018)
"Taylor-Wiles-Kisin patching and mod l multiplicities in Shimura curves" UCLA Number Theory Seminar (October 2018)
"Taylor-Wiles-Kisin patching and mod l multiplicities in Shimura curves" Caltech Number Theory Seminar (March 2019)
"Patching and self-duality" BIRS-CMO Workshop 19w5210 *Modularity and Moduli Spaces* (October 2019)
"Taylor-Wiles-Kisin patching and mod l multiplicities in Shimura curves" UC Irvine Number Theory Seminar (October 2019)
"Taylor-Wiles-Kisin patching and mod l multiplicities in Shimura curves" Stanford Number Theory Seminar (November 2019)

"The Wiles defect for Hecke algebras that are not complete intersections" UCLA Number Theory Seminar (February 2020)
"The Wiles defect for Hecke algebras that are not complete intersections" UCSD Number Theory Seminar (February 2020)
"The Wiles defect for Hecke algebras that are not complete intersections" University of Utah Number Theory Seminar (April 2020)
"The Wiles defect for Hecke algebras that are not complete intersections" UIUC Number Theory Seminar (April 2020)
"The Wiles defect for Hecke algebras that are not complete intersections" UCSB Number Theory Seminar (April 2020)
"The Wiles defect for Hecke algebras that are not complete intersections" Quebec-Vermont Number Theory Seminar (February 2021)

REFERENCES: Available upon request.