

PETER KAGEY

pkagey@g.hmc.edu

503.810.6537

WORK

Harvey Mudd College	<i>July 2022–present</i>
Visiting Assistant Professor	
University of Southern California	<i>August 2017–July 2022</i>
Assistant Lecturer and Teaching Assistant	
Dexcom	<i>December 2014–August 2017</i>
Backend software engineer	

EDUCATION

University of Southern California	<i>August 2017–July 2022</i>
Ph.D. in Mathematics under Sami Assaf	
Dissertation Title: <i>Permutations, Statistics, and Switches</i>	
University of Southern California	<i>August 2017–May 2020</i>
M.A. in Mathematics	
Oregon State University	<i>September 2011–June 2014</i>
B.S. in Mathematics	

TEACHING

MATH035: Probability and Statistics	<i>Scheduled, spring 2023, HMC</i>
MATH197: Senior Thesis in Mathematics	<i>Scheduled, spring 2022, HMC</i>
MATH198: Math Forum	<i>Scheduled, spring 2023, HMC</i>
MATH019: Single and Multivariable Calculus	<i>Fall 2022, HMC</i>
MATH197: Senior Thesis in Mathematics	<i>Fall 2022, HMC</i>
MATH198: Math Forum	<i>Fall 2022, HMC</i>
MATH 407: Probability Theory	<i>Fall 2021, USC</i>
MATH 432: Applied Combinatorics	<i>Spring 2021, USC</i>
MATH 226: Calculus III	<i>Fall 2020, USC</i>
MATH 040: Basic Mathematical Skills (Instructor of Record)	<i>Spring 2020, USC</i>
MATH 225: Linear Algebra and Linear Differential Equations	<i>Fall 2019, USC</i>
MATH 229: Calculus III for Engineers and Scientists	<i>Fall 2018, USC</i>
MATH 126: Calculus II	<i>Spring 2018, USC</i>

RESEARCH

Ranking and Unranking Restricted Permutations
Submitted, preprint arXiv:2210.17021.

A Proof Without Words: Triangles in a Triangular Grid
Submitted, preprint arXiv:2211.00186.

Peter Kagey, Spinning Switches on a Wreath Product
Submitted, preprint arXiv:2210.09408.

Peter Kagey, Permutations with a Given Number of k -cycles
Submitted, preprint arXiv:2112.05281.

COMMUNITY

Prison Mathematics Project	<i>October 2022–present</i>
Mentor	
HMC’s Recreational Math Research Collective	<i>September 2022–present</i>
Founder/advisor	
Bridge to Enter Advanced Mathematics	<i>May 2020–present</i>
Volunteer Tutor	
On-Line Encyclopedia of Integer Sequences	<i>February 2021–present</i>
Associate Editor	
USC’s Directed Reading Program	<i>Spring 2022</i>
Mentor	
USC Mathematics Graduate Student Association	<i>August 2018–June 2021</i>
President	
USC Graduate Student Colloquium	<i>Fall 2021</i>
Co-organizer	
USC Graduate Geometry Seminar	<i>Spring 2020</i>
Co-organizer	
USC Graduate Algebra Seminar	<i>Fall 2019</i>
Co-organizer	
Venice Math Circle	<i>Fall 2018</i>
Volunteer	

TALKS

Rutgers Virtual Seminar for Open Problems	<i>November 2022</i>
A Collection of Open Problems	
Cal Poly Pomona Math and Stats Colloquium	<i>October 2022</i>
Spinning switches on a wreath product	
Claremont McKenna ANTC Seminar	<i>September 2022</i>
Spinning switches on a wreath product	
Joint Mathematics Meetings	<i>April 2022</i>
The expected value of letters in permutations with a given number of k -cycles	
USC’s Graduate Student Colloquium	<i>September 2021</i>
Convex Polyhedra with Regular Polygonal Faces and Vertices in \mathbb{Z}^n	
Graduate Student Combinatorics Conference	<i>April 2021</i>
A Generalized Spinning Switches Puzzle	
24-hour Maths Magic Show	<i>October 2020</i>
Communicating the Card: An Example of Hall’s Theorem	
USC’s Graduate Geometry Seminar	<i>February 2020</i>
Polytopes and Tilings of the Hyperbolic Plane: Schläfli symbols and Conway notation	
USC’s Graduate Algebra Seminar	<i>October 2019</i>
Enumerating States in the Tile Game “Palago” with Burnside’s Lemma	
Graduate Student Combinatorics Conference	<i>April 2019</i>
Counting Subgraph Structures of the $n \times k$ Grid Graph	
Graduate Student Combinatorics Conference	<i>April 2018</i>
Extending Ron Graham’s Sequence and Other Explorations in the OEIS	

AWARDS

Dennis Ray Estes Teaching Prize	<i>Spring 2022</i>
University of Southern California Math Department	
Graduate School Fellowship	<i>Fall 2017 and Spring 2019</i>
USC Dornsife College of Letters, Arts and Sciences	

US National Collegiate Mathematics Championship

July 2014

Fifth place winner

Botand Gabor Eross Scholarship for Outstanding Work in Mathematics

2014

Oregon State University

William Lowell Putnam Mathematical Competition

2013

Oregon State University top scorer award