Michael C. Kopreski

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RESEARCH INTERESTS

Geometric group theory, low-dimensional topology, mapping class groups of finite and infinite-type surfaces and their geometric and topological structure

EDUCATION

University of Utah
Salt Lake City, Utah, USA
Ph.D. candidate in Mathematics — August 2020–
Advisor: Mladen Bestvina

University of Cambridge
Cambridge, United Kingdom
Master of Advanced Study (MASt) in Pure Mathematics — July 2019

College of William & Mary
Williamsburg, Virginia, USA
B.S. in Mathematics (Honors) and Physics (Honors) — May 2017
Summa cum laude; GPA 4.0/4.0

PUBLICATIONS

"Ivanov's theorem for infinite graphs"
In preparation. (Joint work with T. Hill, R. Rechkin, G. Shaji and B. Udall)

"The asymptotic dimension of the grand arc graph is infinite"
Submitted. arXiv:2402.03603 (2024).

"Multiarc and curve graphs are hierarchically hyperbolic"
In peer review. arXiv:2311.04356 (2023).

"Prescribed arc graphs"
In peer review. arXiv:2305.05316 (2023).

"Maximum average degree and relaxed coloring"
Discrete Mathematics **340** (2017) 2528–2530. *(Joint work with G. Yu)*

HONORS & AWARDS

NSF Research and Training Grant Summer Fellowship (U. of Utah)	2022, 2023
Early-career AMS–NSF–Simons–ICM Travel Grant & Kovalevskaya Grant	Jan 2022
NSF Research and Training Grant Fellowship (University of Utah)	2020–2022
Fulbright Scholar (Research, Switzerland)	Mar 2017
Swiss Government Excellence Scholarship	Mar 2017
William & Mary Prize in Mathematics	May 2017
Phi Beta Kappa	Dec 2016
Outstanding Presentation Award, Joint Mathematics Meeting	Jan 2016
William & Mary James Monroe Scholar	Dec 2015
William & Mary NSF EXTREEMS-QED recipient	May 2015

SELECTED TALKS

"Multiarc and curve graphs are classified by their witnesses" — Feb 2024
Geometric Topology Grad and Postdoc Seminar (GT GAPS)

"Multiarc and curve graphs are hierarchially hyperbolic" — Dec 2023
Max Dehn Seminar, University of Utah

"Prescribed arc graphs" (lightning talk) — July 2023
Group Actions and Low-Dimensional Topology, El Barco de Ávila, Spain

"Pseudo-Anosovs of surfaces via stable laminations" (minicourse) — April 2022
Learning seminar for *Groups acting on fractals* trimester program
Institut Henri Poincaré, Paris

"Katok's paradoxical foliation" — Oct 2021
University of Utah Stallings Seminar

"Folding graphs and groups" — Feb 2021
University of Utah Stallings Seminar

"Gromov hyperbolicity and the Gromov boundary" — Sep 2020
University of Utah Stallings Seminar

"A general basis for finitely supported G-equivariant maps" — Nov 2018
University of Cambridge Part III Seminar Series

"Metasurface-based spin-selective optical cavity" — Aug 2016
University of Washington Institute of Nuclear Theory REU

"Relaxed coloring of sparse graphs" — Apr 2016
George Washington University EXTREEMS-QED Conference

"Improper $(1, 1, 0)$-coloring of sparse graphs" — June 2015
William & Mary EXTREEMS-QED Program Seminar

PART III ESSAY

"Combinatorial Morse Theory" — May 2019
Assessor: Henry Wilton
University of Cambridge

HONORS THESES

"Relaxed coloring of sparse graphs" — Dec 2016
Mathematics, Advisor: Gexin Yu
College of William & Mary

"Holographic non-perturbative thermodynamic systems" — May 2017
Physics, Advisor: Joshua Erlich
College of William & Mary

PRIOR RESEARCH EXPERIENCE

École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

Field and Strings Laboratory, Institute of Physics
Fulbright researcher, 1 year — 2017–2018
Advisor: João Penedones

College of William & Mary, Williamsburg, Virginia, USA

William & Mary Graph Theory Group, Department of Mathematics
Undergraduate researcher, 21 months — 2015–2017
Advisor: Gexin Yu

William & Mary High Energy Theory Group, Department of Physics
Undergraduate researcher, 17 months — 2016–2017
Advisor: Joshua Erlich

University of Washington, Seattle, Washington, USA

Nano Optoelectronic Integrated System Engineering Laboratory
Department of Physics/Department of Electrical Engineering
NSF REU student researcher, 3 months — 2016
Advisor: Arka Majumdar

CONFERENCE ABSTRACTS

Kopreski, M., Zhan, A., and Majumdar, A., "Metasurface-based spin-selective optical cavity". Oct 2016

Frontiers in Optics, Optical Society of America and American Physical Society Division of Laser Science, Rochester, NY. *Poster.*

Kopreski, M., "Relaxed coloring of sparse graphs". Jan 2016

Joint Mathematics Meeting, American Mathematical Society and Mathematical Association of America, Seattle, WA. *Abstracts for the MAA Undergraduate Poster Session, abstract 134, page 41.*

SERVICE & OUTREACH

Madsen–Weiss Reading Seminar, *Organizer, speaker* Spring 2024
Organized and facilitated a seminar exploring techniques relevant to the Madsen–Weiss theorem and several extensions.

Geometric Topology Learning Seminar, *Organizer, speaker* Fall 2022
Presented weekly lectures on the theory of geodesic laminations on surfaces and the Nielsen-Thurston classification.

University of Cambridge STIMULUS, *Volunteer* Spring 2019
Prepared and facilitated a weekly afterschool *Code Club* program for primary school students.

William & Mary Makerspace, *Users Board member* 2015–2016
Administered Makerspace policies and activities; reviewed proposals for funding.

The Leadership Center, *Volunteer, IT development, 9 months* 2013
Designed, implemented, and managed IT capabilities for a non-profit women's college in central Honduras.

TEACHING

University of Utah

Math 1320 Engineering Calculus II *(Instructor)*	Spring 2024
Math 3140 Vector Calculus and PDEs for Engineers *(Lab TA)*	Spring 2023
Math 1320 Engineering Calculus II *(Instructor)*	Fall 2022
Math 1060 Trigonometry *(Instructor)*	Fall 2021
Math 1320 Engineering Calculus II *(Lab TA)*	Spring 2021