Curriculum Vitae: Natalie Stewart

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Education

Harvard University, Cambridge MA
Ph.D. in Mathematics, beginning in September 2021.

Massachusetts Institute of Technology, Cambridge MA
B.S. in Mathematics with Computer Science, May 2021
GPA: 5.0/5.0

Papers

1. *Orbital categories and weak indexing systems (2024).*
2. *Lower vounds of hyperbolic 3-manifolds via decomposition* (2021). Joint with Colin Adams et. al. Submitted.
3. *Generalized Augmented Cellular Alternating Links in Thickened Surfaces are Hyperbolic* (2021). Joint with Colin Adams et. al. In *Eur. J. Math.*

Invited talks

TBD (November 2024). For the algebraic topology seminar at Columbia university.

Seminar talks

You can construct G-commutative algebras one norm at a time (February 2024). Given for Harvard Zygtoyop seminar.

Mackey functors and the tom Dieck splitting (February 2024). Given for Harvard Zygotop seminar

A modular description for the $K(2)$-local sphere (October 2023). Given for MIT babytop seminar

Borromean rings, chainmaille, and genuine equivariant homotopy theory (September 2023). Given for Harvard trivial notions seminar.

The Adams spectral sequence for ko theory of the sphere (April 2023). Given for Harvard Zygotop seminar.

On chromatic cyclotomic extensions (March 2023). Given for MIT babytop seminar.

Crash course on stable homotopy theory (February 2023). Given for MIT Juvitop seminar.

Nilpotence detection and the chromatic nullstellensatz (October 2022). Given for MIT Juvitop seminar. Given for Harvard Zygtoyop seminar.

Seminar talks

You can construct G-commutative algebras one norm at a time (February 2024).

Constructions of ∞-operads and the BV tensor product (April 2022). Given for Harvard ∞-categories seminar.

Operadic Koszul duality and the spectral Lie operad (March 2022). Given for MIT Juvitop seminar.

The Joyal model structure on simplicial sets, straightening, and unstraightening (February 2022). Given for Harvard ∞-categories seminar.

From $\mathbb{Q}$ to $\mathbb{R}$: bicategorical adjunctions, profunctors, and absolute colimits (February 2022). Given for the Trivial Notions seminar.

Operads and Iterated Loop Spaces (November 2021). Given for the MIT Kan seminar.

Adapted homology theories and the Adams spectral sequence (November 2021). Given for the MIT babytop seminar.

On Milnor's exotic 7-spheres (October 2021). Given for the MIT Kan seminar.

Lie algebra cohomology and L_∞-algebras (September 2021). Given for the MIT Juvitop seminar.

Estimating link volumes via subdivision (July 2020), given remotely and jointly with 6 other undergraduates.

Selected awards

James Mills Peirce Fellowship, Harvard University	2021
NSF GFRP Fellowship	2021
Phi Beta Kappa nomination,	2021
Sigma Xi nomination,	2021

Misc.

Organizer of the MIT Babytop seminar for fall 2024.

Founding organizer of the Harvard Zygotop seminar for the year 2023.

Co-organizer of the Harvard $(\infty, 1)$-learning seminar for spring 2022.

Mentor in the Harvard directed reading program (DRP) for fall 2021, spring 2022, and spring 2024.

Mentor in the MIT Undergrad Society of Women in Math (USWIM) mentorship program during fall 2020 and spring 2021.