Ishan Levy | ishanl@mit.edu Website: ishanina.github.io

EDUCATION

Taylor Allderdice High School, Pittsburgh PA – Class of 2015, GPA 4.0

Princeton University, Princeton NJ – Class of 2019, B.A, GPA 3.98

Massachusetts Institute of Technology, 2019-present (PhD expected May 2024)

PAPERS AND PREPRINTS

K-theoretic counterexamples to Ravenel's telescope conjecture (w Robert Burklund, Jeremy Hahn, and Tomer Schlank), Preprint, (2023)

Topological Hochschild homology of the image of j (w David Jongwon Lee), Preprint, (2023)

Categorifying reduced rings, Preprint, (2023)

The algebraic K theory of the K(1)-local sphere via TC, Preprint, (2022)

Adams-type maps are not stable under composition (w Robert Burklund and Piotr Pstragowski), Proceedings of the AMS, (2022)

On the K-theory of regular coconnective rings (w Robert Burklund), Selecta Mathematica, (2023)

Some aspects of noncommutative geometry (w Robert Burklund), Available on website (2021)

The Borel cohomology of free iterated loop spaces (w Justin Wu), Preprint, (2021)

Eilenberg Mac Lane spectra as p-cyclonic Thom spectra, Journal of Topology, (2021)

CONFERENCE TALKS

Union College Math Conference: June 4 2022

The K-theoretic telescope conjecture away from p

AIM Workshop on Equivariant techniques in Stable Homotopy Theory: October 28 2022

The Balmer spectrum of 2-complete cellular C-motives

Panorama of homotopy theory: A conference in Honour of Mike Hopkins: June 6 2023

Applications of algebraic K-theory to a problem in topology

Arbeitstagung 2023 on Condensed Mathematics: June 21 2023

K-theory and the telescope conjecture

The transatlantic transchromatic homotopy theory conference II - Andy Baker 70: July 31 2023

Some consequences of the failure of the telescope conjecture

Oberwolfach Topology: August 7 2023

K-theory and the telescope conjecture

Midwest Topology seminar: Oct 1 2023

The K-theory of the chromatic filtration

Princeton Special Algebraic Topology seminar on the telescope conjecture: Oct 28 2023

An overview of the proof

SEMINAR TALKS

Columbia Topology Seminar: April 22 2022

The K-theoretic telescope conjecture away from p

Johns Hopkins Topology Seminar: August 29 2022

The algebraic K theory of type 2 spectra

Northwestern Topology seminar: October 10 2022

The algebraic K theory of type 2 spectra

Chicago Topology seminar: October 11 2022

The algebraic K theory of type 2 spectra

Albany Algebra/Topology seminar: November 3 2022

What we know about stable subcategories of the stable homotopy category

UCSD Topology seminar: November 22 2022

The algebraic K theory of type 2 spectra

IAS seminar: March 17 2023

The algebraic K theory of type 2 spectra

Hamburg Quantum Topology and Categorification seminar: April 5 2023

Categorifying reduced rings

Copenhagen Algebra/Topology seminar: July 7 2023

K-theory and the telescope conjecture

Münster Topology seminar: July 25 2023

K-theory and the telescope conjecture

UVA Topology seminar: Sept 21 2023

Telescopic stable homotopy theory

UIUC Topology seminar: Oct 3 2023

Telescopic stable homotopy theory

IU Bloomington Topology seminar: Oct 25 2023

Telescopic stable homotopy theory

UW Topology seminar: Nov 9 2023

Telescopic stable homotopy theory

IAS seminar: Nov 30 2023

Telescopic stable homotopy theory

Ohio State Homotopy theory seminar: Dec 7 2023

Telescopic stable homotopy theory

EXPOSITORY TALKS

Hecke operators and buildings - Babytop: Fall 2023

Higher heights and the triple loop space approach - Babytop: Spring 2023

bo-resolutions - Babytop: Spring 2023

The height 1 telescope conjecture via the localized Adams spectral sequence - Babytop: Spring 2023

Overview of T(n)-local stable homotopy theory - Babytop: Spring 2023

The moduli stack of broken lines - Juvitop: Spring 2023

Absolute prismatic cohomology - Thursday Seminar: Fall 2022

Nilpotence detecting Lubin-Tate theories at heights 0,1 - Juvitop: Fall 2022

The Goodwillie tower of the identity and Tits buildings - Juvitop: Spring 2022

Tools of unstable homotopy theory - Thursday Seminar: Spring 2022

The L theory of Z - Thursday Seminar: Fall 2021

The proof of T(n)-local ambidexterity - Talbot: Fall 2021

Computing with synthetic spectra - Babytop: Fall 2021

Deformation theory and Lie algebras - Juvitop: Fall 2021

Chromatic homotopy and telescopic localization - Thursday Seminar: Spring 2021

The infinitesimal site and algebraic de Rham cohomology - STAGE Seminar: Spring 2021

Periodic localizations, Ravenel - IAP Kan Seminar: IAP 2021

Outline of the proof of the cobordism hypothesis - Juvitop: Fall 2020

Lazard’s ring and height - Juvitop: Spring 2020

Kan seminar: Fall 2019

1. Rational homotopy theory - Griffiths and Morgan
2. Higher algebraic K theory I - Quillen

3. Bott periodicity - Atiyah
4. K theory - Atiyah
5. On the construction FK - Milnor

SEMINARS (CO)ORGANIZED

MIT Topology seminar: Spring 2021, Summer 2021, Fall 2021, Fall 2023

Juvitop: Fall 2022, The Chromatic Nullstellensatz

Juvitop: Spring 2023, Floer Homotopy Theory

Babytop: Spring 2023, T(n)-local stable homotopy theory

Babytop: Fall 2023, Topological automorphic forms

AWARDS

Awarded Highest Honor (Summa Cum Laude) in Princeton Mathematics Department, 2019

George B. Covington Award for Excellence in Mathematics, 2019

Awarded NSF Graduate Research Fellowship, 2019

Inducted in the fall for Phi Beta Kappa Honor Society, 2018

Recipient of Andrew H. Brown Prize for outstanding juniors at Princeton in mathematics, 2018

Recipient of Shapiro Prize for Academic Excellence at Princeton, 2017

SERVICE AND TEACHING

Mentor for UROP, reading project with undergraduate student, 2023

Mentor for coffee chats, advising program for undergraduate students, 2022-

GUMMI mentor, advising program for undergraduate students, 2020-

Mentor for MIT's directed reading program for undergraduate students, 2019-

Taught 18.032 Differential Equations at MIT, 2023

Taught 18.06 Linear Algebra at MIT, 2022

PRIMES mentor, research program for high school students, 2020-2021

Volunteer for Mathreach, program for underprivileged students to get excited about math, 2018-2019

Scribe for AIM workshop "Equivariant techniques in stable homotopy theory" 2022

Counselor at PROMYS, math camp for high school students, 2016-2019

Undergraduate Course Assistant for Honors Analysis I & II, 2016-2017