DYLAN SPENCE

Rawles Hall 238 ⋄ 831 East 3rd St. ⋄ Bloomington, IN 47405
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EDUCATION

Indiana University Bloomington *Expected May 2021*
Ph.D. in Mathematics Advisor: Valery Lunts
Thesis: *Derived categories of singular curves*

Indiana University Bloomington *December 2018*
M.A. in Mathematics

University of Delaware *May 2016*
B.S. in Physics & B.S. in Applied Mathematics

RESEARCH INTERESTS

Algebraic geometry. In particular derived categories, deformation theory, moduli, and related equivariant questions. Applications to homological mirror symmetry, birational geometry, geometric representation theory, and motives. Further interests include noncommutative and higher algebraic structures arising in the above.

PUBLICATIONS

In Preparation

· *A note on semiorthogonal indecomposability of some Cohen-Macaulay varieties.*

Preprints

· *Reconstruction of projective curves from the derived category.* arXiv 2002.07961. Submitted.

TEACHING EXPERIENCE

Indiana University Bloomington
Instructor of Record

· Math-M 106: Math of Decision and Beauty *Fall 2020*
· Math-J 111: Introduction to College Math I *Fall 2019*
· Math-M 106: Math of Decision and Beauty *Summer 2019*
· Math-J 113: Introduction to Calculus with Applications *Spring 2019*
· Math-J 010: Introduction to Algebra *Summer 2018*
· Math-M 106: Math of Decision and Beauty *Spring 2018*
· Math-M 106: Math of Decision and Beauty *Summer 2017*
· Math-M 014: Basic Algebra *Fall 2016*

Grader

· Math-M 501: Survey of Algebra *Fall 2020*
· Math-M/S 403: Introduction to Modern Algebra I *Fall 2019*
· Math-M 501: Survey of Algebra *Spring 2018*
· Math-M 336: Topics in Euclidean Geometry *Spring 2018*
· Math-M 380: History of Math *Spring 2017*

University of Delaware
Teaching Assistant

· PHYS202: Introductory Physics II *Winter 2016*
· PHYS202: Introductory Physics II *Winter 2015*

UNDERGRADUATE MENTORING - DIRECTED READING PROGRAM

Directed Reading Program *2018-Present*
Program Coordinator

Graduate Mentor:

· Nathaniel Lowry. *Spring 2019*
Project Title: Rational points on elliptic curves
Book: *Elliptic curves* by Dale Husemöller.

· Nathanial Lowry. *Spring 2018*
Project Title: Introduction to algebraic geometry
Book: *Algebraic Geometry: A Problem Solving Approach* by Thomas Garrity, et. al.

AWARDS AND HONORS

Hazel King Thompson Fellowship *Summer 2020*
Research fellowship

David A. Rothrock Teaching Award *April 2018*
For excellence in teaching

Hazel King Thompson Fellowship *Spring 2016*
For the recruitment of excellent graduate candidates

INVITED TALKS

Midwest Algebraic Geometry Graduate Conference *May 2020*
Title: *Reconstruction of projective curves from the derived category* Online

Particle Physics Seminar *March 2018*
Title: *Complex and algebraic geometry in physics* University of Delaware

SEMINARS (CO)ORGANIZED

Seminar on Homological Projective Duality *Fall 2020*
Co-organizer

Seminar on K3 Surfaces *Fall 2019*
Organizer

Seminar on Noncommutative Motives *Fall 2019*
Co-organizer

Seminar on Pure Motives *Spring 2019*
Co-organizer

Graduate Student Colloquium *Fall 2018*
Co-organizer

Seminar on Poisson Geometry *Spring 2018*
Co-organizer

CONFERENCES AND WORKSHOPS ATTENDED

SPONGE (Stacks Project ONline Geometry Event) *August 2020*
Online

Midwest Algebraic Geometry Graduate Conference *May 2020*
Online

The Geometry of Derived Categories *September 2019*
University of Liverpool

Derived Categories, Moduli Spaces, and Deformation Theory *June 2019*
Cetraro Italy

Stability Conditions and Homological Projective Duality *April 2018*
University of Michigan

SERVICE AND PROFESSIONAL DEVELOPMENT

IU Directed Reading Program *2018 - Present*
Program coordinator; supervised two projects

American Mathematical Society *2016 - Present*
Member

Jumpstart Qualifier Preparation *Summer 2018*
Instructor for algebra

ScienceFest *2016, 2017*
Volunteer for a public science day at IU

Delaware Science Olympiad *2012, 2013, 2015, 2016*
Event director