

Charlie Godfrey

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Education

PhD in Mathematics, The University of Washington-Seattle June 2021 (expected)

- Adviser: Sándor Kovács
- Thesis: *Higher direct images of ideal sheaves, correspondences in log Hodge cohomology and globally F-full varieties*
- Completed the **eScience Institute's Advanced Graduate Data Science Option**

Student, **MSRI Mathematics of Machine Learning Summer Graduate School** July 29-August 9 2019

MS in Mathematics, The University of Washington-Seattle June 2018

- Adviser: Sándor Kovács
- General exam paper: *Thrifty rational resolutions in arbitrary characteristic*

BS in Mathematics and Physics, The University of Wisconsin-Madison May 2014

Academic positions

Program Associate, **Mathematical Sciences Research Institute** March-May 2019

- Participated in the *Birational Geometry and Moduli Spaces* research program

Awards

Department of Mathematics Graduate Fellowship, The University of Washington-Seattle 2018-2019

Publications and preprints

- [1] May 2021. "Higher Direct Images of Ideal Sheaves, Correspondences in Log Hodge Cohomology and Globally F-Full Varieties". PhD thesis. University of Washington. 66 pp. URL: math.washington.edu/~cgodfrey/assets/pdfs/thesis.pdf.
- [2] 2020 (with Takumi Murayama). "Du Bois Singularities in Families". In: *In preparation*.
- [3] 2018. "Thrifty Rational Resolutions in Arbitrary Characteristic". General exam paper. URL: math.washington.edu/~cgodfrey/assets/pdfs/ThriftyRatl.pdf.

Talks

- [1] Apr 7, 2021. "A Du Bois-Jarraud Type Lemma in Characteristic p " (University of Washington "What are you working on?" Student Seminar).
- [2] Jan. 5, 2021. "The (Derived) Direct Summand Conjecture: A Survey of Bhatt's Theorems" (University of Washington Recent Hits in Algebraic Geometry Student Seminar).
- [3] Oct. 3, 2020 (with Takumi Murayama). "Du Bois Singularities in Families" (AMS Fall Eastern Sectional Special Session on Algebraic Singularities in Arbitrary Characteristic).
- [4] Oct. 27, 2020. "Higher Direct Images of (Log) Structure Sheaves" (University of Washington Algebra and Algebraic Geometry Seminar).
- [5] Apr. 26, 2019. "Logarithmic Chow-to-Hodge Cycle Maps" (Mathematical Sciences Research Institute Graduate Student Seminar).
- [6] Aug. 9, 2019 (with Kapila Kottegoda, Oliver Knitter, and Yunpeng Shi). "Survey of Linear Stochastic Bandits" (MSRI Mathematics of Machine Learning Summer School).
- [7] Aut. 2018. "The Cohomology of a Smooth Hypersurface" (The University of Washington Graduate Student 1, 2, 3 Seminar).
- [8] Win. 2017. "The Cone of Curves" (The University of Washington Graduate Student MMP Seminar).

Teaching

Pre-doctoral Teaching Assistant, The University of Washington-Seattle

September 2014-present

- *Main instructor*: Introduction to Differential Equations, Calculus I, Calculus III, Algebra with Applications, Introduction to Mathematical Reasoning, Graduate Prelim Exam Practice Course
- *Teaching assistant*: Pre-Calculus, Calculus I-III, Linear Algebra
- *Grader*: Graduate Abstract Algebra
- *Direct supervisor*: [Andrew Loveless](#)

Graduate Mentor, [Washington Experimental Math Laboratory](#)

January-June 2019, March-June 2020

- Mentored a undergraduate research projects on topics such as the foundations of quantum mechanics, mathematical epidemiology and generalizations of the Gauss-Lucas theorem
- *Faculty Mentors*: Jarod Alper, Benjamin Feintzeig, Harry Richman

Other research experience

Research experience for undergraduates

Summer 2013

The University of Minnesota School of Physics and Astronomy

- Designed and performed experiments using the BL21Rosetta2 strain of *E. coli* in the context of synthetic biology. Used MATLAB for to solve differential equations modelling genetic circuits
- Principal Investigator: Vincent Noireaux

Other work experience

Editorial Page Editor, The Badger Herald

September 2012-December 2013

- Recruited new writers, and worked with writers to create locally relevant content for the Opinion page. Edited and formatted columns and letters to the editor, and wrote [regular columns and editorials](#)
- Member of the Badger Herald Editorial Board
- The Badger Herald is the largest independent student newspaper in the United States