Hugh Roberts Geller, Ph.D.   Curriculum Vitae

Contact Information
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West Virginia University
School of Mathematical and Data Sciences
Armstrong Hall 411A
Morgantown, WV 26506

Research Interests

Commutative and Homological Algebra
    Constructions and applications of minimal free resolutions
    Constructions and applications of differential graded algebras
    Applications to neural rings and codes

Education

Clemson University; Clemson, SC   2014-2021
    Ph.D., Mathematical Sciences (2017-2021)
      Research Advisor: Dr. Keri Sather-Wagstaff
      Dissertation: *Minimal Differential Graded Resolutions of Fiber Products*
    M.S., Mathematical Sciences (2014-2016)
      Research Advisor: Dr. Jim Brown

University of Oxford; Oxford, UK   2012-2013
    Visiting Student Program

Goucher College; Baltimore, MD   2010-2014
    B.A. with honors, Mathematics, Magna Cum Laude

Positions

West Virginia University; Morgantown, WV   2022 - Present
    Postdoctoral Research Associate in Commutative Algebra

Sewanee: The University of the South; Sewanee, TN   2021-2022
    Visiting Assistant Professor of Mathematics

George Mason University; Fairfax, VA   2020-2021
    Affiliate Faculty (unpaid research affiliate)

Queens College, City University of New York; Queens, NY   (Spring) 2016
    Adjunct Lecturer

Papers and Preprints

1. Jim Brown, Hugh Geller, Rico Vicente, and Alexandra Walsh, *Eigenform Product Identities for Degree-Two Siegel Modular Forms*, J. Number Theory **204** (2019), 25-40. MR3991412

2. Hugh Geller, *Minimal Free Resolutions of Fiber Products* To appear in Proc. Amer. Math. Soc. *DOI:* https://doi.org/10.1090/proc/15963

3. Hugh Geller, Rebecca R.G., *Canonical Forms of Neural Ideals*, arXiv:2209.09948 (Submitted)

4. Hugh Geller, *Differential Graded Algebras from Tensor Products of Truncations* (in preparation)

Talks and Conferences Attended

Invited Research Talks:

1. AMS Spring Central Sectional Meeting, University of Cincinnati, April 2023

2. AMS Spring Southeastern Sectional Meeting, Georgia Institute of Technology, March 2023

3. Algebra Seminar, West Virginia University, October 2022

4. AMS Spring Eastern Sectional Meeting, Tufts University, March 2022

5. Joint Mathematics Meetings, Seattle, WA, January 2022 (Postponed to April 2022)

6. AMS Fall Southeastern Sectional Meeting, University of South Alabama, November 2021

7. AMS Spring Eastern Sectional Meeting, Brown University, March 2021

8. AMS Spring Southeastern Sectional Meeting, Georgia Institute of Technology, March 2021

9. Algebra Seminar, West Virginia University, February 2021

10. Joint Mathematics Meetings, Washington, DC, January 2021

11. Algebra and Number Theory Seminar, Texas Tech University, November 2020

12. Combinatorics, Algebra, and Geometry Seminar, George Mason University, October 2020

13. AMS Fall Eastern Sectional Meeting (online), Pennsylvania State University, October 2020

14. Commutative and Homological Algebra Market Presentations, Virtual Seminar, September 2020

15. AMS Fall Central Sectional Meeting (online), University of Texas at El Paso, September 2020

16. Virtual Session on DG-Methods, May 2020

17. A Zoom Special Session on Commutative Algebra, March 2020

18. AMS Fall Southeastern Sectional Meeting, University of Florida, November 2019

19. Commutative Algebra Seminar, University of Utah, October 2019

20. AMS Spring Southeastern Sectional Meeting, Auburn University, March 2019

21. Algebra and Discrete Mathematics Seminar, Clemson University, March 2019

Conferences Organized

1. Morgantown Algebra Days (MAD), Spring 2024, co-organized with Ela Celikbas, Olgur Celikbas, and Rebecca R.G.

2. Morgantown Algebra Days (MAD), Spring 2023, co-organized with Ela Celikbas, and Olgur Celikbas

Seminars and Special Sessions Organized

1. WVU Algebra Seminar, Spring 2023, co-organized with Ela Celikbas and Olgur Celikbas

2. Special Session on Combinatorial Commutative Algebra, AMS Southeastern Sectional Meeting at the University of Tennessee at Chattanooga, October 2022, co-organized with Keri Sather-Wagstaff

3. Special Session on Homological Commutative Algebra, AMS Southeastern Sectional Meeting at the University of Tennessee at Chattanooga (online), October 2020, co-organized with James Gossell and Keri Sather-Wagstaff

Other Conferences and Workshops Attended

1. Structure of Length Three Resolutions, University of California San Diego, August 2019

2. Morgantown Algebra Days, West Virginia University, April 2019

3. Southwest Local Algebra Meeting, Unisersity of Texas at El Paso, February 2019

Undergraduate Mentoring

George Mason University/West Virginia University

    Mason Experimental Geometry Lab (MEGL)   Fall 2022

    External collaborator/mentor

Clemson University

    REU in Coding Theory, Cryptography, and Number Theory   Summer 2018

      Graduate Research Assistant to Dr. Jim Brown

Teaching Experience

West Virginia University

    Math 156: Calculus 2

Sewanee: The University of the South

    Math 215: Discrete Mathematical Structures

    Math 210: Linear Algebra

    Math 102: Calculus II

    Math 101: Calculus I

Clemson University

    Algebra Preliminary Exam Review

    Math 4190: Discrete Mathematical Structures I

    MATH 3190: Introduction to Proof (Teaching Assistant only)

    MATH 1080: Calculus of One Variable II

    MATH 1060: Calculus of One Variable I

    MATH 1070: Differential and Integral Calculus (Teaching Assistant only)

    MATH 1040: Precalculus and Introductory Differential Calculus

Queens College, City University of New York

    MATH 110: Mathematical Literacy

Honors and Awards

Spring 2021

    Clemson Doctoral Dissertation Completion Grant ($12,000 stipend and a tuition waiver)

    Drennon/Gabot Memorial Fund: Outstanding Graduate in Research,

      Clemson School of Mathematical and Statistical Sciences ($1000)

Spring 2020

    Graduate Travel Grant, Clemson Graduate Student Government ($750)

    AMS Graduate Student Travel Grant ($250, unpsent due to COVID-19 cancellations)

Fall 2019

    Phi Kappa Phi, inducted into Chapter 49

    Graduate Travel Grant, Clemson Graduate Student Government ($750)

    GSTI Honorarium ($800 for professional development)

Summer 2019

    Graduate Travel Grant, Clemson Graduate Student Government ($750)

Spring 2019
> Graduate Travel Grant, Clemson Graduate Student Government ($448)

Spring 2017
> Drennon/Gabet Endowed Memorial Fund: Excellence in Graduate Teaching,
>   Clemson School of Mathematical and Statistical Sciences ($700)

Spring 2014
> Phi Beta Kappa, inducted into the Chapter: Beta of Maryland

Fall 2013
> Landmark Conference Senior Scholar Athlete, Cross Country

Professional Development

Clemson Graduate Student Teaching Institute (GSTI)   December 2019
> Seminar on critical thinking strategies for the classroom and course development.

Teacher Training Seminar, Clemson University   Spring 2015
> Semester long, math department teacher training for first year graduate students.

Leadership and Service

Clemson University

SMSS Graduate Student Advisory Council, Establishing Committee	2020 - 2021
Graduate Student Senator, Finance Committee Member	2017 - 2019
Graduate Student Academic Grievance Committee	2018 - 2019
Panel Member, Clemson Mathematics Teacher Training Seminar	January 2019
Interim Department Chair Search Committee	Spring 2018
Panel Member, Clemson Mathematics Teacher Training Seminar	April 2017

Goucher College

President, Pi Mu Epsilon	2013 - 2014
Captain, Track and Field	Spring 2014
Captain, Cross Country	Fall 2013

Refereeing

Referee for: Communications in Algebra

Additional Math Training

Analysis

Preliminary Exam, PhD/Strong Pass	Summer 2017
Math 8220: Measure and Integration	Spring 2017
Math 8210: Linear Analysis	Fall 2014

Stochastics

Preliminary Exam, PhD/Strong Pass	Winter 2017
Math 8170: Stochastic Models in Operations Research I	Fall 2016
Math 8030: Stochastic Processes	Summer 2016
Math 8000: Probability	Fall 2015

Other Courses

Math 8650: Data Structures (Python)	Fall 2017
Math 8600: An Introduction to Scientific Computing (Matlab)	Spring 2015
Math 8100: Mathematical Programming (AMPL)	Summer 2015
Math 8050: Data Analysis (R)	Spring 2015