

Candace A. Bethea

Present Address

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Contact Information

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Education

University of South Carolina, Columbia, South Carolina 2015-2020 (expected)
Doctoral Candidate in Mathematics
Adviser: Jesse Leo Kass
Dissertation: *An equivariant enumerative formula for singular elements in a pencil of conics.*

Washington & Lee University, Lexington, Virginia 2011-15
B.A. in Mathematics
Honors Thesis: *Realizability of Graphs with Prescribed Vertex Connectivity, Edge Connectivity, Minimum Degree, and Maximum Degree.*

Papers

C. Bethea, J.L. Kass, K. Wickelgren, *An example of wild ramification in an enriched Riemann-Hurwitz formula*, accepted for publication with revisions, in Contemporary Mathematics "Motives and Refined Enumerative Geometry" conference proceedings.

C. Bethea, *The degree map in algebraic geometry*, accepted for publication in the JMPP Monograph (internal at UofSC), February 2019.

C. Bethea, W. Dymacek, *Realizability of Graphs with Prescribed Vertex Connectivity, Edge Connectivity, Minimum Degree, and Maximum Degree*, Congressus Numerantium 276 (2016) 31-48.

Teaching Experience

University of South Carolina, August 2015-
Columbia, South Carolina
Instructor of record (with Preparing Future Faculty certification):

- Calculus I TA (F'15, F'18)
- Calculus II TA (S'16, S'18)
- Intensive College Algebra (F'16)
- College Algebra (Sum. '17)
- Business Calculus (S'17, S'19)
- Finite Mathematics (F'17)

Washington & Lee University, 2013-2015
Lexington, Virginia
Mathematics Tutor:

- Calculus I
- Calculus II

Grants, Fellowships, Scholarships

- SPARC Graduate Research Grant (internal at University of South Carolina)– 2018
- American Mathematics Society Grant (for travel to 2018 International Congress of Mathematicians)– 2018
- Graduate Student Travel Grant (internal at University of South Carolina)– 2017
- Grace Jordan McFadden Professors Program Fellowship (for African American Ph.D. students at University of South Carolina)– 2017-2020
- Washington & Lee University Four Year Merit Scholarship– 2011-2015

- Indiana Professional Association Leadership Scholarship– 2011

Conference and Workshop Talks

An Example of Wild Ramification over a Non-Perfect Field, at Women in Homotopy Theory and Algebraic Geometry at Freie Universitat Berlin, March 2019.

The Degree Map in Motivic Homotopy Theory, at GWAGWMG at MIT and Harvard, February 2018.

Naive Homotopy Classes of Endomorphisms of \mathbb{P}^1 , Winter School in \mathbb{A}^1 -Homotopy at Freiburg Institute for Advanced Studies, February 2018.

When is a Knot Not a Knot? An Introduction to the Unknotting Problem, Carolina Math Symposium at Columbia College, November 2016.

Realizability of Graphs with Prescribed Parameters, NCUWM at University of Nebraska-Lincoln, January 2015.

Realizability of Graphs with Prescribed Parameters, SUMS Conference at James Madison University, October 2014.

Seminar Talks

Degree computations in \mathbb{A}^1 -homotopy theory and an application to Riemann-Hurwitz over a non-perfect field, Algebraic Geometry Seminar at Universidade Federal Fluminense, August 2018.

Pseudo-abelianization and the Category of Pure Chow Motives, MaSC Seminar at the University of South Carolina, March 2018.

Naive Homotopy Classes of Endomorphisms of \mathbb{P}^1 , Algebraic Geometry Seminar at the University of South Carolina, January 2018.

The Homotopy Category of a Model Category, Model Categories Seminar at the University of South Carolina, February 2017.

The Grothendieck Group: What it is and where to find it, Graduate Colloquium at the University of South Carolina, February 2017.

Realizability of Graphs with Prescribed Parameters, Parents' Weekend Math Symposium at Washington & Lee University, September 2014.

Realizability of Graphs with Prescribed Parameters, R. E. Lee Summer Research Seminar at Washington & Lee University, August 2014

Service and Leadership Experience

- Graduate Student Instructor Peer Mentor Program, 2018-2019.
- Salvation Army Christmas Drive through the Grace Jordan McFadden Professors Program.
- Current President and founder of the University of South Carolina Association for Women in Mathematics Student Chapter, 2017- present.
- University of South Carolina MATH 122 Textbook Review Committee, 2018.
- Guest Speaker, Columbia College, “*Applying to Graduate School as a Woman in STEM*”, November 2015.
- Gamecock Math Club Integration Bee Host, 2016-2019.
- Spanish-English Translator- Drawchange Nonprofit Organization, 2013-2016

- Destination Imagination Student Team Leader- Central Elementary School, Lexington, VA, 2011.
- Volunteer Guitar Teacher- Boys & Girls Club of Atlanta, 2008-2010.

**Professional
Memberships**

National Association of Mathematicians
Association for Women in Mathematics
American Mathematical Society
Pi Mu Epsilon