

Audrey Goodnight

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EDUCATION

Agnes Scott College, Decatur, Georgia, USA

B.A. in Mathematics

Aug 2015 – May 2019

- Relevant coursework: Abstract Algebra (Abstract Algebra II taken through cross-enrollment at Emory), Number Theory, Real Analysis, Math Stats and Probability, Multivariable Calculus, Linear Algebra
- Honors: *summa cum laude* (GPA: 3.95/4.00), Phi Beta Kappa, Founder's Scholarship, Nannette Hopkins Music Scholarship, Scottie Alumnae Grant

Budapest Semesters in Mathematics, Budapest, Hungary

Study Abroad program

Sep 2016 – Dec 2016

- Relevant coursework: Theory of Computing, Topology, Quantum Information and Quantum Computation, Combinatorics (audit)

RESEARCH EXPERIENCE

Undergraduate research, Agnes Scott College

Undergraduate Research Student, Department of Mathematics

Jan 2018 – May 2019

- Project: Classification of braces
- Supervisor: Prof. Alan Koch
- Collaborated with research team of two undergraduate students and one professor on the classification of braces, a mathematical structure relevant to Galois theory and Hopf algebras.

2017 Mathematics REU Program at Iowa State University, Iowa State University

Undergraduate Research Student, Department of Mathematics

Jun 2017 – Jul 2017

- Project: Inverse eigenvalue problem for small graphs
- Supervisors: Prof. Steve Butler and Prof. Leslie Hogben
- Collaborated with research team of two professors, two graduate students, and six undergraduate students on problem regarding combinatorics, graph theory, and linear algebra

Undergraduate research, Agnes Scott College

Undergraduate Research Student, Department of Mathematics

Jan 2017 – Dec 2017

- Project: An examination of the cyclic nature of last digits in recurrence relations
- Supervisor: Prof. Alan Koch
- Collaborated with research team of two to three undergraduate students and one professor on a problem in recurrence relations

Goizueta Foundation STEM Scholars Program, Agnes Scott College

Undergraduate Research Student, Department of Mathematics

Jun 2016 – Jul 2016

- Project: Measuring Chaos: Explorations in Dynamical Systems
- Supervisor: Prof. Rachel Rossetti
- Collaborated with research team on problem regarding a dynamical system

PUBLICATIONS

J. Ahn, C. Alar, B. Bjorkman, S. Butler, J. Carlson, A. Goodnight, H. Knox, C. Monroe, and M. C. Wigal. Ordered multiplicity inverse eigenvalue problem for graphs on six vertices. ArXiv e-prints, August 2017. (Submitted)

A. Goodnight and K. McCrary. Cyclic Dynamical Systems, Proceedings of the Harriett J. Walton Symposium on Undergraduate Mathematics Research, Volume 15, June 2017, 7-18.

PRESENTATIONS

Oral Presentations

Agnes Scott College Spring Annual Research Conference, Atlanta GA

Apr 2019

- Braces and the Yang-Baxter Equation

Nebraska Conference for Undergraduate Women in Mathematics, Lincoln NE

Jan 2019

- Braces and their Opposites

Agnes Scott College Spring Annual Research Conference, Atlanta GA

Apr 2018

- Sink Your Teeth into Algebra: Left Braces on $2p$ Elements!
- Inverse Eigenvalue Problem for Graphs on Six Vertices

	<i>Agnes Scott College Spring Annual Research Conference, Atlanta GA</i>	Apr 2017
	<ul style="list-style-type: none"> • Finite Dynamical Systems on the Circle • An Examination of the Cyclic Nature of Last Digits in Recurrence Relations 	
	<i>Harriet J. Walton Symposium on Undergraduate Mathematics Research, Atlanta GA</i>	Apr 2017
	<ul style="list-style-type: none"> • Finite Dynamical Systems on the Circle 	
	<i>Goizueta Foundation STEM Scholars Program research presentation, Atlanta GA</i>	Jul 2016
	<ul style="list-style-type: none"> • Finite Dynamical Systems on the Circle 	
	Poster Presentations	
	<i>Joint Mathematics Meeting, San Diego, CA</i>	Jan 2018
	<ul style="list-style-type: none"> • Ordered Multiplicity Inverse Eigenvalue Problem for Graphs on Six Vertices: Attainability 	
	<i>International Linear Algebra Society meeting, Ames, IA</i>	Jul 2017
	<ul style="list-style-type: none"> • Ordered Multiplicity Inverse Eigenvalue Problem for Graphs on Six Vertices: Attainability 	
TEACHING EXPERIENCE	Minnesota Math Corps , Hmong International Academy, Minneapolis, MN	
	<i>Math Tutor (Full time)</i>	Sep 2019 – Present
	<ul style="list-style-type: none"> • Implement evidence-based mathematics interventions with grades 5-8 • Conduct weekly tutoring sessions with 25 students, mostly in pairs • Measure student progress by collecting data on an ongoing basis. 	
	Private Tutoring , Decatur, GA	
	<i>Math Tutor</i>	Jan 2018 – May 2019
	<ul style="list-style-type: none"> • Tutor high school aged students in calculus • Tutor middle school aged students in geometry 	
	Resource Center for Math and Science , Agnes Scott College	
	<i>Math Learning Assistant</i>	Aug 2017 – May 2019
	<ul style="list-style-type: none"> • Tutor students of Agnes Scott College in mathematics, helping them understand how to do homework problems on their own • Lead workshops in calculus demonstrating a variety of techniques 	
HONORS AND AWARDS	Wilson Asbury Higgs Scholarship , Agnes Scott College	
	<i>Scholarship Recipient</i>	Aug 2018 – May 2019
	<ul style="list-style-type: none"> • Scholarship awarded to one senior annually by the mathematics department at Agnes Scott College based on merit 	
	Barry Goldwater Scholarship Program	
	<i>Honorable Mention</i>	Mar 2018
	<ul style="list-style-type: none"> • National scholarship program that identifies and supports emerging research leaders in the natural sciences, engineering and mathematics 	
CAMPUS INVOLVEMENT	Legacy , Agnes Scott College	
	<i>Legacy Leader</i>	Aug 2018
	<ul style="list-style-type: none"> • Oriented 25 new students to Agnes Scott College's SUMMIT curriculum with a co-leader by facilitating workshops on leadership on campus and at the Center for Civil and Human Rights 	
	ASCEND! , Agnes Scott College	
	<i>Treasurer</i>	Aug 2018- May 2019
	<ul style="list-style-type: none"> • Manage finances for Agnes Scott College's general body LGBTQA group 	
	Omicron Delta Kappa , Agnes Scott College	
	<i>Secretary</i>	Nov 2017- May 2019
	<ul style="list-style-type: none"> • Participate in service projects and meetings on professional development 	
	Association for Women in Mathematics , Agnes Scott College	
	<i>Secretary</i>	Aug 2017 – May 2019
	<ul style="list-style-type: none"> • Assist in organizing events with Agnes Scott College's chapter of the AWM, including math talks and social opportunities 	
	Her Campus , Agnes Scott College	
	<i>Author</i>	Jan 2017 – May 2019

- Write articles twice a month on a variety of topics relevant to college-aged students

Blackfriars, Agnes Scott College

Actor

Jan 2016 – May 2019

- Act in plays for audiences of varying ages, with casts of four to seven people

Global Awareness Program to the Dominican Republic, Agnes Scott College

Student

Mar 2016

- Studied the effects of globalization on health of Haitian migrants in the Dominican Republic

ASC Community Orchestra, Agnes Scott College

Clarinetist

Aug 2015 – May 2019

- Perform clarinet parts in concerts once per semester

Generating Excellence in Math and Science (GEMS), Agnes Scott College

Member

Aug 2015 – May 2019

- Lived on the GEMS floor for a semester, meet 2 times a semester for workshops on excelling in STEM fields

LANGUAGES

English: Native language.

Spanish: Intermediate (speaking, reading, writing).

Norwegian: Basic (speaking, reading, writing).

SKILLS

Python, \LaTeX , POV-Ray (C++), HTML, JavaScript, Mathematica

**PROFESSIONAL
AFFILIATIONS**

Association for Women in Mathematics (AWM)

Mathematical Association of America (MAA)