

# Noelle Sawyer

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**Employment** **Southwestern University**, Georgetown, TX  
Assistant Professor of Mathematics August 2020 - Present

**Education** **Wesleyan University**, Middletown, CT  
Ph.D. in Mathematics May 2020  
Advisor: David Constantine  
Thesis: Partial marked length spectrum rigidity of negatively curved surfaces

**Vassar College**, Poughkeepsie, NY  
B.A. in Mathematics and History May 2014

**Research Interests** My research interests are in dynamics and geometry. I am particularly interested in marked length spectrum rigidity and Riemannian geometry.

**Papers** **Phase transitions for the geodesic flow of a rank one surface with nonpositive curvature.**  
With Keith Burns, Jérôme Buzzi, and Todd Fisher  
Appeared in Dynamical Systems, June 2021.  
**Unique equilibrium states for geodesic flows on flat surfaces with singularities.**  
Preprint

**Math Community** **Austin Math Teachers' Circle** March 2022  
University of Texas at Austin.  
**Hidden Norms Webinar** February 2022  
Semi-Norm Speaker (Breaking Norms).  
**Black in Math Week** November 2020  
Co-organized with Marissa Loving, Candice Price, Dwight Williams II, Michole Enjoli, and more  
**Midwest Dynamical Systems Early Career Conference** November 2020  
Co-organized with Ben Call, Ivan Chio, and Kitty Yang

**Media** **Modern Mathematics Confronts its White, Patriarchal Past** August 2021  
An article in Scientific American  
Written By Rachel Crowell  
**Who Will Celebrate You?** June 2021  
A blog post on the AMS inclusion/exclusion blog  
**The First Black in Math Twitter Event** December 2020  
Appeared in MAA Math Values Blog and the NAM newsletter  
Authored with Omayra Ortega.  
**#BlackInMathWeek** November 2020  
An episode of the podcast Relatively Prime  
Hosted with Michole Enjoli

<b>Invited Talks</b>	<b>Women in Groups, Geometry, and Dynamics</b>	June 2022
	<i>Special Session.</i> AWM Research Symposium. University of Minnesota.	
	<b>Smith College Colloquium</b>	April 2022.
	<b>The College of New Jersey Colloquium</b>	March 2022
	<b>OURFA<sup>2</sup>M<sup>2</sup> Our Stories</b>	December 2021
	<b>Wake Forest University Colloquium</b>	November 2021
	<b>Rice University Topology Seminar</b>	April 2021
	<b>Indiana University Geometry Seminar</b>	March 2021
	<b>Bryn Mawr Distressing Math Collective</b>	March 2021
	<b>University of Washington Rainwater Seminar</b>	February 2021
	<b>Cal State East Bay Colloquium</b>	January 2021
	<b>Women of Color in Topology and Algebra</b>	January 2021
	<i>AMS-AWM Special Session.</i> Joint Math Meetings.	
	<b>Boston College Dynamics Seminar</b>	October 2020
	<b>Graduate Student Online Anything Topology Seminar</b>	April 2020
	<b>University of Virginia Geometry Seminar</b>	February 2020
	<b>Fractal Geometry, Dynamics, and Applications</b>	January 2020
	<i>AMS Special Session.</i> Joint Math Meetings. Denver.	
	<b>Ohio State University Topology Seminar</b>	November 2019
	<b>Yale University Geometry and Topology Seminar</b>	September 2019
<b>Midwest Dynamical Systems Early Career Conference</b>	May 2019	
Ohio State University.		
<b>University of Hartford Undergraduate Colloquium</b>	April 2019	
<b>Statistical and Geometrical Properties of Dynamical Systems</b>	October 2018	
<i>AMS Special Session</i> San Francisco State University.		

<b>Contributed Talks</b>	<b>Talk Math with Your Friends</b>	July 2020
	<b>Poster Presentations by Women Graduate Students</b>	January 2020
	<i>AWM Workshop.</i> Joint Math Meetings. Denver.	
	<b>Graduate Student Conference in Algebra, Geometry and Topology</b>	June 2019
	Temple University. Area and partial length spectrum data.	
	<b>Graduate Student Topology and Geometry Conference</b>	March 2019
	UIUC. Area and partial length spectrum data.	
	<b>Graduate Student Seminar</b>	
	Wesleyan University.	
	- Ends of groups.	November 2019
	- Building $\varepsilon$ -dense closed geodesics.	March 2019
	- Fun with discrete geometry and polygonal curvature.	September 2018
	- Geodesic currents and the boundary at infinity.	April 2018
	- It's Chaotic: an introduction to topological entropy.	October 2017
- Hadamard's Theorem.	March 2017	
- Power indices and the upcoming election.	February 2016	
<b>Special Preliminary Examination.</b>	October 2017	
Wesleyan University. The specification property and closed orbit measures.		

<b>Teaching</b>	<b>Southwestern University</b>
	Modern Calculus I
	Topology
	Statistics

**Instructor, Wesleyan University**

Elements of Calculus Part I Fall 2019  
 Elements of Calculus Part II Spring 2018  
 Introductory Calculus II Spring 2017

**Graduate Teaching Assistant, Wesleyan University**

Discrete Math Spring 2020  
 Differential Equations Spring 2019  
 Math Workshop Fall 2018 and Spring 2016  
 Vectors and Matrices Fall 2017  
 Combinatorics Fall 2016  
 Calculus I, Part II Fall 2015  
 Calculus I, Part II Spring 2015  
 Multivariable Calculus Fall 2014

**Teaching Assistant,****Wesleyan Center for Prison Education**

Intermediate Algebra Fall 2016

**Summer School Instructor,****St. John's College, New Providence, The Bahamas**

Seventh Grade Math June 2014, 2013, 2011, and 2010.

**Head Supplemental Instruction Leader,****Quantitative Reasoning Center, Vassar College**

Single Variable Calculus II Spring 2014  
 Single Variable Calculus I Fall 2013

**Supplemental Instruction Leader,****Quantitative Reasoning Center, Vassar College**

Single Variable Calculus II Spring 2013  
 Single Variable Calculus I Fall 2012

**Mentoring**

**Mentor at Topology Students Workshop** July 2020

Georgia Institute of Technology

**Directed Reading Program, Wesleyan University**

Discrete Geometry Spring 2019  
 Hyperbolic Geometry Fall 2018

**Service and Leadership**

**Publicity and Publication Committee** August 2019 - August 2021

National Association of Mathematicians.

**Directed Reading Program Committee**

Wesleyan University. September 2018 - May 2020

**Co-founder and Vice President**

AWM Grad Student Chapter, Wesleyan University. September 2018 - May 2020

**Co-organizer**

Graduate Student Seminar, Wesleyan University. January 2019 - December 2019

**Vice President**

AMS Grad Student Chapter, Wesleyan University. September 2017 - July 2019

**Career Panel**

*Beyond the Binary* conference, University of Hartford. April 2019

**Editorial Board**

MAD Pages, National Association of Mathematicians. June 2018 - January 2019

**Graduate Life After Vassar Panel**

LAVA and AWM, Vassar College. September 2018

<b>Graduate School Panel</b> Physics and Math Club, Montclair State University.	February 2018
<b>Graduate School Panel</b> McNair Program, Wesleyan University.	October 2017
<b>Graduate Student Working Group</b> Wesleyan University.	July 2016 - June 2017
<b>Treasurer</b> Graduate Student Association, Wesleyan University.	July 2015 - June 2016
<b>Speaker</b> <i>Life After Vassar</i> by LAVA and AWM, Vassar College.	February 2016
<b>Co-Chair</b> Relay for Life Committee, Vassar College.	Spring 2014
<b>Flexibility and rigidity in dynamical systems</b> Simons Center for Geometry and Physics. Stony Brook, New York.	March 2022
<b>MAA Mathfest</b>	August 2021
<b>Joint Math Meetings</b>	January 2021
<b>Paradigms: Diversity in Graduate Mathematical Sciences</b>	November 2020
<b>Mastery Grading Conference</b>	June 2020
<b>Joint Math Meetings</b> Denver, Colorado.	January 2020
<b>Workshop in Dynamical Systems and Related Topics</b> Pennsylvania State University.	Sept 2019, Oct 2018
<b>Women in Mathematics in New England</b> Smith College.	September 2017-2019
<b>AIM Workshop on Equilibrium States of Dynamical Systems Arising from Geometry.</b> American Institute of Mathematics.	July 2019
<b>Graduate Student Conference in Algebra, Geometry and Topology.</b> Temple University.	June 2017, 2019
<b>Midwest Dynamical Systems Early Career Conference</b> Ohio State University.	May 2019
<b>Graduate Student Topology and Geometry Conference</b> University of Illinois at Urbana Champagne.	March 2019
<b>Midwest/McGehee Dynamical Systems Conference</b> University of Minnesota.	November 2018
<b>AMS Fall Western Sectional Meeting</b> San Francisco State University.	October 2018
<b>Northeast Analysis Network Conference</b> University at Albany SUNY.	September 2018
<b>Topology Students Workshop</b> Georgia Institute of Technology.	June 2018
<b>Séminaire de Mathématiques Supérieures 2017</b> Contemporary Dynamical Systems. Université de Montréal.	July 2017
<b>Graduate Student Topology and Geometry Conference</b> Michigan State University.	April 2017

**Conferences  
& Workshops  
Attended**