

Breeanne Swart

The Citadel, The Military College of South Carolina
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EDUCATION

Lehigh University: Bethlehem, PA

Ph.D. Mathematics, September 2013.

Dissertation Topic: The k -fixed-endpoint Path Partition Problem.

Advisor: Dr Garth Isaak.

M.S. Mathematics, May 2009.

Meredith College: Raleigh, NC

B.S. Mathematics; **B.A.** French; Computer Science minor; Honors Program, May 2007

TEACHING EXPERIENCE

The Citadel, The Military College of South Carolina: August 2013 - Present

- Charleston, SC
- Assistant Professor of Mathematics: Fall 2013-Present. Teach mathematics courses including service and major courses.

Lehigh University: August 2007- May 2013

- Bethlehem, PA
- Lecturer: Fall 2011 - Present. Taught Preparation for Calculus, Calculus with Business Applications, and Survey of Linear Algebra.
- Mathematics Teaching Assistant: Fall 2007-Spring 2011. Responsibilities included lead four weekly recitations, grade homework assignments, help grade exams, and hold office hours for the Engineering Calculus series and Calculus with Business Applications.

Delaware County Community College: Summer 2010, Summer 2011

- Marple, PA
- Adjunct Mathematics Instructor.
- Instructor for College Algebra & Trigonometry I and Precalculus.

PRESENTATIONS

- "Math and Magic." Invited Talk: South Carolina Junior Academy of Science. Charleston, SC. October 2016.
- "Maximizing the Number of Edges in a k -Ranking of a Directed Graph." Midwestern Conference on Combinatorics and Combinatorial Computings. Charleston, SC. October 2015.

- “Augmented Happy Functions.” MAA-SE Sectional Meeting. Wilmington, NC. March 2015.
- “Augmented Happy Numbers.” Invited Talk: Sigma Xi. Charleston, SC. November 2014.
- “Math and Magic.” Invited Talk: South Carolina Junior Academy of Science. Charleston, SC. November 2014.
- “Generalization of the Nine Card Problem.” MathFest. Portland, OR. August 2014.
- “The Nine Card Problem: The Mystery Revealed.” MAA-SE Sectional Meeting. Cookville, TN. March 2014.
- “The k -Fixed-Endpoint Path Partition Problem on Trees and Block Graphs.” Invited Talk: Carolina Mathematics Seminar. Columbia, SC. October 2013.
- “The k -Fixed-Endpoint Path Partition Problem on Unit Interval Graphs and Other Interesting Problems.” Invited Talk: UNC Asheville Senior Seminar. Asheville, NC. September 2013.
- “The 1-Fixed-Endpoint Path Partition Problem on Interval Graphs.” Joint Mathematics Meetings. San Diego, CA. January 2013. (1086-05-481)
- “Characterization Theorems for the k -Fixed-Endpoint Path Partition Problem.” Invited talk: AMS Eastern Sectional Meeting. Rochester Institute of Technology, Rochester, NY. September 2012. (1082-05-155)
- “From Professors to Empires.” Moravian College Mathematical Society ϵ -talk, Bethlehem, PA. April 2012.
- “The k -fixed-endpoint Path Partition Problem.”
 - Joint Mathematics Meetings. Boston, MA. January 2012. (1077-05-1568)
 - EPaDel MAA Sectional Meeting. Harrisburg Area Community College, Harrisburg, PA. April 2011.
 - 42nd Southeastern International Conference on Combinatorics, Graph Theory, and Computing. Florida Atlantic University, Boca Raton, FL. March 2011.
 - Graduate Student Intercollegiate Mathematics Seminar. Lehigh University, Bethlehem, PA. March 2011.
- “Mobius Fun.” Touch the Future: A Celebration of Women in Math and Science. American Association of University Women, Lansdale, PA. March 2011.
- “Path Partitions in Special Graph Classes.” Graduate Student Intercollegiate Mathematics Seminar. Lehigh University, Bethlehem, PA. October 2010.
- “Elliptic Curves and Cryptography.” Celebrating Student Achievement Day. Meredith College, Raleigh, NC. April 2007.
- “Sending Secret Messages Using Cryptography.” Sonya Kovalesky Day. Meredith College, Raleigh, NC. February 2007.

ADDITIONAL CONFERENCES ATTENDED

- Joint Mathematics Meetings. Atlanta, GA. January 2016.
- MathFest. Washington, DC. August 2015.

- Triangle Lectures in Combinatorics. High Point, NC. October 2014.
- American Institute of Mathematics Research Experiences for Undergraduate Faculty Workshop. Palo Alto, CA. July 2014.
- Joint Mathematics Meetings. Baltimore, MD. January 2014.
- Mini-ExCEED Workshop. Charleston, SC. January 2014.
- The Council on Undergraduate Research Workshop. Charleston, SC. November 2013.
- ProjectNExT Workshop. Hartford, CT. August 2013.
- MathFest. Hartford, CT. August 2013.
- 2012 Trends in Undergraduate Research in Mathematical Sciences Conference. Chicago, IL. October 2012.
- EPaDel MAA Sectional Meeting. LaSalle University, Philadelphia, PA. November 2010.
- Joint Mathematics Meetings. Washington, D.C. January 2009.

PUBLICATIONS

- “Fixed Points of Augmented Happy Functions: Deserts and Oases.” *in preparation*.
- “1.5-Happy Functions.” *in preparation*.
- “Fixed Points of Augmented Happy Functions.” Submitted November 2016.
- “Extrema Property of the k -ranking of directed paths and cycles.” *AKCE International Journal of Graphs and Combinatorics*, April 2016.
- “Augmented Generalized Happy Functions.” To appear in *Rocky Mountain Journal of Mathematics*. Available in Project Euclid, June 2015.
- “Revelations and Generalizations of the Nine Card Problem.” *Mathematics Magazine*, April 2015.

MEMBERSHIPS

Mathematical Association of America, September 2013-Present.

Project NExT Fellow – MAA, August 2013-Present.

American Mathematical Society, August 2007-2013.

Graduate Student Intercollegiate Mathematics Seminar, August 2009-May 2013.

GRANTS

- The Citadel Foundation Research Grant. July 2016-June 2017.
- The Citadel Foundation Faculty Development Grant. MathFest Minicourse. August 2015.
- REUF SQuaRE. “Properties of Happy Functions.” July 2015.
- The Citadel Foundation Presentation of Research Grant, “Augmented Happy Functions.” MAA-SE Sectional Meetings. March 2015.

- Triangle Lecture in Combinatorics Travel Funds Grant. October 2014.
- The Citadel Foundation Presentation of Research Grant, “Generalization of the Nine Card Problem.” MathFest. August 2014.
- The National Science Foundation, # DMS 1239280, Research Experience for Undergraduate Faculty. July 2014.
- The Citadel Foundation New Faculty Research Grant. March 2014.
- The Citadel Foundation Faculty Development Grant. Joint Mathematics Meetings. January 2014.
- The Citadel Foundation Presentation of Research Grant, “The k -Fixed-Endpoint Path Partition Problem on Trees and Block Graphs.” Carolina Mathematics Seminar. October 2013.
- The Citadel Foundation Presentation of Research Grant, “The k -Fixed-Endpoint Path Partition Problem on Unit Interval Graphs and Other Interesting Problems.” UNC Asheville Senior Seminar. September 2013.
- 2012 Trends in Undergraduate Research in Mathematical Sciences Conference Travel Funds Grant. Chicago, IL. October 2012.
- Lehigh University Mathematics Department Summer Research Fellowship. Summer 2012.

OTHER EXPERIENCE

Lehigh University Math Study/Help Center: Fall 2007-Spring 2013.

- Bethlehem, PA.
- Tutored undergraduate and graduate students taking calculus, differential equations, linear algebra, probability, statistics, and analysis.

Meredith College Learning Center: Fall 2005-Spring 2007

- Raleigh, NC
- Tutored fellow students in math courses from algebra to calculus as well as introductory physics and introductory french.

Honors Thesis: Fall 2006-Spring 2007

- Meredith College, Raleigh, NC
- Performed research in cryptology with Dr Jennifer Hontz. Used Java to encrypt and decrypt messages.

Research Experiences for Undergraduates: Summer 2006

- Rose-Hulman Institute of Technology, Terre Haute, IN
- Performed research in inverse problems. Presented findings at conference for Indiana REUs.

AWARDS

- TA of the Year. Spring 2011. Lehigh University, Bethlehem, PA.

TECHNOLOGY SKILLS: iClicker, TurningPoint Technologies, WebAssign, MyMathLab, Course Site, Blackboard, \LaTeX , Word, Excel, PowerPoint