Aaron Shukert

(720-936-9433) ⋄ shukertaaron@gmail.com

EDUCATION

Colorado State University August 2016 - May 2019
Bachelor of Science in Applied Mathematics, *Cum Laude*
Minor: Physics

ACADEMIC AWARDS

Joint Math Meetings, Baltimore, MD. 2019
Outstanding Poster Award in Dynamical Systems for *Hyperbolic Mandelbrot and Julia Sets.*

Department of Mathematics Poster Session, Colorado State University. 2019
Best Poster Award for *Differential Galois Theory.*

Department of Mathematics Poster Session, Colorado State University. 2018
Best Poster Award for *Generation of Random Planar Equilateral Polygons.*

Colorado State University Green and Gold Scholarship 2016 - 2019

Colorado State University Partnership Award 2016 - 2019

PUBLISHED WORKS

2. Vance Blankers, Tristan Rendfrey, Aaron Shukert, and Patrick Shipman, *Julia and Mandelbrot Sets for Dynamics over the Hyperbolic Numbers*, Fractal and Fractional 3 (2019), 6. https://doi.org/10.3390/fractalfract3010006

1. Laney Bowden, Andrea Haynes, Clayton Shonkwiler, and Aaron Shukert, *Spherical Geometry and the Least Symmetric Triangle*, Geometriae Dedicata 198 (2019), 19-34. https://doi.org/10.1007/s10711-018-0327-4.

PRESENTATIONS

Talks

Spherical Geometry and the Least Symmetric Triangle
AMS Session on Topology and Geometry, Joint Math Meetings, San Diego, CA 2018

Poster Presentations

Differential Galois Theory, Colorado State University 2019
Hyperbolic Mandelbrot and Julia Sets, Joint Math Meetings. Baltimore, MD 2019
Simplicial Homology, Colorado State University 2018
Generation of Random Planar Equilateral Polygons, Colorado State University 2018

RESEARCH EXPERIENCE

Laboratory for Mathematics in the Sciences October 2018 - December 2018
Undergraduate Research Mathematician

· Researched the impact of electrical charge on the formation of chemical microtornados when reacting hydrogen chloride (HCl) and ammonia (NH_3) to form the aerosol ammonium chloride (NH_4Cl).

Department of Mathematics, CSU June 2018 - July 2018
Undergraduate Research Mathematician

· Developed numerical algorithms and data visualization in both C and MATLAB in the investigation of discrete time dynamics over the hyperbolic numbers.
· Investigated improving modern computational topology algorithms using Fourier methods.

Shonkwiler Research Group April 2017 - May 2018
Undergraduate Research Mathematician

· Studied n-gons through their representation as points on the Grassmannian of 2-planes in $\mathbb{R}^n$.
· Aimed to classify n-gons as convex, concave, or self intersecting based on properties of their Plücker coordinates.

ADDITIONAL EXPERIENCE

Phase Three Product Development June 2019 - December 2019
Contract Software Engineer

· Development of image recognition and control algorithms in C, C^{++} for use in flow cytometry.

CSU Math Club December 2018 - May 2019
Vice President

· Assisted in planning weekly meetings which taught students various topics in math.
· Organized events such as guest lectures and a bi-annual math department picnic.