

Maxine Elena Calle

Pronouns: she/her/hers
Email: callem@sas.upenn.edu
Web: web.sas.upenn.edu/callem

EDUCATION

University of Pennsylvania

Graduate Student

Philadelphia, PA

Fall 2020–Current

Reed College

B.A. in Mathematics, concentration in Philosophy

GPA: 3.84/4.00, *Phi Beta Kappa*

Portland, OR

2016–2020

– Thesis advisor: Kyle Ormsby

– Thesis title: “Morse Theory and Flow Categories”

RESEARCH INTERESTS

Geometry and topology, including differential geometry, algebraic topology, and homotopy theory. Philosophy of science and mathematics, particularly mathematical structuralism.

PUBLICATIONS

- *The Spectrum of the Burnside Tambara Functor of a Cyclic Group*. Joint with S. Ginnett. 2020. *Submitted*.
- *The Tambara Structure of the Trace Ideal on Cyclic Groups*. Joint with S. Ginnett, with an appendix by H. Chen and X. Chen. 2020. *Journal of Algebra*: Vol. 560, pp.114–143.
- *Sharp Sectional Curvature Bounds and a New Proof of the Spectral Theorem*. Joint with C. Dunn. 2020. *Involve, a Journal of Mathematics*: Vol. 13, No. 3, pp.445–454.
- *k-Plane Constant Curvature Conditions*. 2019. *Rose-Hulman Undergraduate Mathematics Journal*: Vol. 20, Iss. 2, Article 6.

FELLOWSHIPS AND AWARDS

- Graduate Research Fellowship
National Science Foundation 2020–Current
- Calabi Scholar
University of Pennsylvania 2020–Current
- Benjamin Franklin / Fontaine Fellowship
University of Pennsylvania 2020–Current
- Elevating Mathematics competition, honorable mention (joint with L. Williams)
National Academies of Sciences, Engineering, and Medicine 2020
- MAA MathFest Outstanding Presentation Award
Joint Mathematics Meetings 2019
- Commendation for Academic Achievement
Reed College 2016–2020

PRESENTATIONS

Invited Talks

The Tambara Structure of the Trace Ideal

Nebraska Conference for Undergraduate Women in Mathematics (NCUWM)
University of Nebraska-Lincoln

January 2020
Lincoln, NE

Putting the ‘k’ in Curvature: k -Plane Constant Curvature Conditions

Undergraduate Mathematics Symposium (UMS)
University of Illinois at Chicago

November 2018
Chicago, IL

Northwest Undergraduate Mathematics Symposium
Willamette University

November 2018
Salem, OR

Mathematics Department Colloquium
Reed College

September 2018
Portland, OR

Poster Presentations

Presidential Inauguration Student Showcase
Reed College

October 2019
Portland, OR

Summer Research Poster Session
Reed College

September 2019
Portland, OR

Student Poster Session
Joint Mathematics Meetings (JMM)

January 2019
Baltimore, MD

RESEARCH AND TEACHING EXPERIENCE

Mathematics

NSF REU Participant at California State University, San Bernardino
Differential Geometry

Summer 2018

Collaborative Mathematics Research Group (CMRG) Participant at Reed College
Algebraic Topology

Summer 2019

Individual Tutor at Reed College
*Calculus, Introduction to Analysis, Discrete Structures, Linear Algebra,
Vector Calculus, Real Analysis, Complex Analysis, and Abstract Algebra*

January 2017–May 2020

Drop-in Tutor at Reed College
Math Help Center

January 2019–May 2020

Teaching Assistant at Reed College
Vector Calculus

August 2018–May 2020

Mathematics Grader at Reed College
Vector Calculus

Fall 2020

Philosophy

Individual Tutor at Reed College
Logic, Modal Logic and Metaphysics

August 2018–May 2020

Philosophy Grader at Reed College
Logic

August 2018–December 2019

Course Notes Author at Reed College
Logic

2018

OTHER EXPERIENCE AND INTERESTS

Community building, mentorship, and outreach

STEMGeMs (gender minorities in STEM fields) at Reed College <i>Co-leader and Department Liaison</i>	January 2019–May 2020 Portland, OR
Women and Mathematics at the Institute for Advanced Study <i>Participant and Outreach Volunteer</i>	May 2019 Princeton, NJ
American Mathematical Society (AMS) <i>Member (nominated by Reed College 2018-2020, nominated by the University of Pennsylvania 2020-Current)</i>	2018–Current
Peer Mentor Program at Reed College <i>Mentor</i>	2017-2018 Portland, OR

Performing Arts

Echo Theater Company <i>Aerial Silks Instructor</i>	September 2019–March 2020 Portland, OR
Aerial Acrobatics Troupe at Reed College <i>Co-leader and Instructor</i>	September 2019–May 2020 Portland, OR
“Friday at Four” Concerts at Reed College <i>Solo Piano Performer</i>	August 2016–May 2020 Portland, OR

REFERENCES

Available upon request.