

AMELIA POMPILIO

Webpage: <https://homepages.math.uic.edu/~apompi2/index.html>

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RESEARCH INTERESTS

My research interests lie broadly in the intersection of metric and projective geometry. Keywords: divisible convex sets, Hilbert geometries, p -uniform convexity, $CAT(\kappa)$ spaces, Finsler geometry

EDUCATION

University of Illinois at Chicago

August 2019 - Present

Graduate Student in Pure Mathematics PhD Program

Department of Mathematics, Statistics, and Computer Science

University of Dayton

August 2015 - May 2019

B.S. in Mathematics

Attended Math in Moscow in Spring 2019

PAPERS

Pompilio, Amelia. *β -Uniform Convexity and Divisible Domains*. arXiv:2410.20071 (2024) (Link)

Jeffrey A. Bennett*, Jonathan D. Ogland-Hand, Kyle J. Cox, Peter J. Johnson, Erin J. Middleton, Amelia I. Pompilio, Samanwita Samal, Carl J. Talsma, Velimir V. Vesselinov, Kevin M. Ellett, Richard S. Middleton, *Beam Me Up SCO_2T^{PRO} : A Comparison to the FE/NETL CO_2 Saline Storage Cost Model and Updates on Tool Development*. (August 26, 2022). Proceedings of the 16th Greenhouse Gas Control Technologies Conference (GHGT-16) 23-24 Oct 2022. (Link)

TALKS

Big Ideas in Dynamics and Geometry (Invited)

September 2024

“Divisible Convex Sets and β -Uniform Convexity”

Buckeye Metric Geometry Workshop

August 2024

“Divisible Convex Sets and p -Uniform Convexity”

Groups and Dynamics Learning Seminar

April 2024

“Anosov Flows on Divisible Convex Domains”

Graduate Student Colloquium

April 2024

“On Hilbert Geometries and Having a Good Time in Grad School”

TEACHING

Instructor of Record:

UIC Young Scholars Program

Summer 2024, 2023, 2022, and 2021

MATH 589 Teaching and Presentation of Mathematics

Fall 2024, 2023

MATH 294 Abstract Algebra Workshop

Spring 2024

MATH 194 Special Topics in Mathematics for UIC Global Students

Spring 2023

MATH 090 Intermediate Algebra

Fall 2022, 2021

MATH 211 Calculus III ESP

Fall 2020, Spring 2021

Teaching Assistant:

MATH 180 Calculus I *Spring 2024*
MATH 105 Mathematical Reasoning *Fall 2022*
MATH 110 College Algebra *Spring 2022*
MATH 210 Calculus III *Fall 2020, Spring 2021*
MATH 181 Calculus II *Fall 2019, Spring 2020*

Grading:

Math 330 Abstract Algebra *Spring 2024*
Math 549 Differentiable Manifolds I *Spring 2022*
Math 417 Complex Analysis *Fall 2021*

OUTREACH AND SERVICE

UIC Directed Reading Program *Summer 2024*
Mentor in geometry for undergraduate math and public policy double major
Math Circles of Chicago
At Gads Hill Community Center in Pilsen, Chicago *Fall 2022 to Spring 2024*
At University of Chicago for the Young Scholars Program *Fall 2019*
Outreach Day *June 2024*
For visiting students, organized by Laura Schaposnik
Graduate Geometry, Topology, and Dynamics Seminar Co-Organizer
Seminar co-organizer *AY 2022-2023*
Graduate Student Colloquium Co-Organizer
Organized as Mathematics Graduate Student Association Co-President *AY 2020-2021*
Peer Notetaker
Through Disability Resource Center *Fall 2019*

AWARDS

Graduate Service Award *Spring 2024*
Teaching Assistant Award *Spring 2023*

WORK EXPERIENCE

Research Associate, Carbon Solutions LLC *Summer 2022*
Modeled geological dynamics of carbon sequestration using machine learning tools in Python