

# Aziz Burak Gülen

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## Education

*August 2018—* Ph.D., Mathematics  
*Present* The Ohio State University, Columbus, OH  
Advisor: Facundo Mémoli  
CGPA: 3.97/4.00

*September 2013—* B.Sc., Mathematics  
*June 2018* Middle East Technical University, Ankara, Turkey  
CGPA: 3.88/4.00

## Employment

*August 2018—* Graduate Teaching Associate / Graduate Research Associate  
*Present* Department of Mathematics, The Ohio State University

*February 2016—* Student Assistant  
*June 2017* Department of Mathematics, Middle East Technical University

## Publications / Preprints

- Orthogonal Möbius Inversion and Grassmannian Persistence Diagrams. With F. Mémoli and Z. Wan, arXiv:2311.06870
- A Generalization of the Persistent Laplacian to Simplicial Maps. With F. Mémoli, Z. Wan, and Y. Wang. In 39th International Symposium on Computational Geometry (SoCG) 2023
- Galois Connections in Persistent Homology. With A. McCleary, arXiv:2201.06650 (submitted)

## Teaching Experience

### THE OHIO STATE UNIVERSITY

- TA Training Instructor Summer 2023
- Calculus III, MATH2153, TA for three sections Autumn 2022
- TA Training Instructor Summer 2022
- Calculus for Business, MATH1131, TA for two sections Spring 2022
- Engineering Mathematics B, MATH2173, TA for three sections Autumn 2021
- Combinatorics, MATH4575 & Linear Algebra, MATH2568, Grader Spring 2021
- Precalculus, MATH1150, TA for two sections Autumn 2020
- Engineering Mathematics A, MATH1172, TA for two sections Spring 2020

- Calculus II, MATH1152, TA for two sections Autumn 2019
- Calculus II, MATH1152, TA for two sections Spring 2019
- Calculus I, MATH1151, TA for two sections Autumn 2018

#### MIDDLE EAST TECHNICAL UNIVERSITY

- Calculus for Mathematics Students II, MATH154, Grader Spring 2017
- Calculus for Mathematics Students I, MATH153, Grader Autumn 2016
- Basic Algebraic Structures, MATH116, TA Spring 2016

#### Honors and Awards

- OSU Math. Department, Speacial Graduate Assignments (SGA) Spring 2023
- OSU Graduate Associate Teaching Award (GATA) March 2022
- OSU Student Research Assistantship Summer 2019, Summer 2020

#### Talks

- Orthogonal Möbius Inversion January 2024  
JMM 2024
- Orthogonal Möbius Inversion and Grassmannian Persistence Diagrams Dec. 2023  
CSU Topology Seminar
- A Generalization of the Persistent Laplacian to Simplicial Map June 2023  
SoCG 2023
- Using Galois Connections to Prove Bottleneck Stability June 2023  
Workshop on Möbius Inversions and Reeb Spaces
- A Tutorial on Spectral Clustering April 2023  
OSU (Topology Geometry and Applications - Graduate Student Seminar)
- Computing Topological Persistence for Simpnlicial Maps February 2023  
OSU NDA Group meeting
- Persistence Laplacian July 2022  
OSU NDA Group meeting
- Saecular Persistence March 2022  
OSU NDA Group meeting
- Diagrams of Persistence Modules Over Finite Posets February 2022  
OSU TGDA Seminar
- Diagrams of Persistence Modules Over Finite Posets February 2022  
OSU Topology, Geometry, and Applications - Graduate Student Seminar group
- Bottleneck Stability for Generalized Persistence Diagrams November 2021  
OSU NDA Group meeting
- Generalized Persistence Diagrams October 2021  
OSU NDA Group meeting
- Linear Systems on Metric Graphs October 2020  
OSU Student Algebraic Geometry Seminar

## Attended Conferences & Seminars & Summer Schools

- The 39th International Symposium on Computational Geometry Summer 2023
- Geometry and Topology meet Data Analysis and Machine Learning Summer 2023
- Workshop on Algebraic Combinatorics and Category Theory in Topological Data Analysis Spring 2022 (Online)
- Twelve Lectures on Tropical Geometry, Max-Planck-Institut für Mathematik (Online) Summer 2020
- Algebraic and Tropical Meetings (ATOM) (Online) Summer 2020
- Facets of Algebraic Geometry, Michigan October 2019
- GSTGC, Illinois March 2019