

# MEHMET KIRTIŞOĞLU

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<https://mkirtisoglu.github.io>

## RESEARCH INTEREST

- Mainly interested in algebraic (computational) topology, homotopy theory, and category theory. Also, interested in topological data analysis (TDA); Persistent Homology.

## EDUCATION

### Bilkent University

MSc. in Mathematics

Ankara, Turkey

2022–2024 (expected)

- Research Area: Algebraic Topology “Cohomology of Categories”, Advisor: [Ergün Yalçın](#)

### Bilkent University

B.S. in Mathematics, CGPA: 3.10/4.00

Ankara, Turkey

2017–2022

- Senior Project: “Reconstruction of Networks of Chaotic Systems”, Advisor: [Fatihcan Atay](#)

## TAKEN COURSES

- **In M.S.:** Group Representations, Manifold Theory, Real Analysis, Introduction to Quantum Computation, Algebra II, Algebraic Topology I (Homology and Cohomology by eCHT research community)
- **In B.S.:** Abstract Mathematics I-II, Calculus I-II, Advanced Calculus I-II, Linear Algebra I-II, Differential Equations, Finite and Discrete Mathematics, Complex Analysis, Algebra I-II, Topology, Topics in Ordinary Differential Equations, Probability and Statistics for Engineers, Graduate Algebra I, Introduction to Number Theory, Real Analysis, Representation Theory, Introduction to Modeling and Optimization, Introduction to Programming in Python

## ACADEMIC EXPERIENCE

### Bilkent University

Graduate Assistantship

Ankara, Turkey

Sep 2022 –Present

- Introduction to Calculus I, Introduction to Calculus II, Introduction to Linear Algebra, Topology

### Network Oriented Dynamics and Data Science Research Group ([NODDS](#))

Internship

Istanbul, Turkey

Nov 2020 –May 2022

- Worked on Graph Theory, Stability Theory, Synchronization Theory, Pinning Theory, and Bifurcation Theory and executed hundreds of related simulations in Python.

### Bilkent University

Grading Assistant

Ankara, Turkey

Sep 2019 –Jan 2020

- MATH 220 Linear Algebra

## SCHOLARSHIPS AND AWARDS

2017-2022	Outstanding Success Scholarship by Turkish Educational Foundation
2017-2022	National Undergraduate Scholarship Program (2205) by TÜBİTAK (The Scientific and Technological Research Council of Turkey)
2017-2022	Comprehensive Scholarship of Bilkent University
2017	Ranked in first 4000 in Nationwide University Entrance Exam (LYS) among 2 million high school students in Turkey

## WORKSHOPS

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- [Cakilarasi Math Village](#) Topology of Surfaces, Turkey 14 - 18 Aug 2023
- [DRP Türkiye](#) Direct Reading Program, Turkey (mentored by [Assist. Prof Feride Ceren Köse](#)) Summer 2022
- [Nesin Math Village](#) Summer and Winter Schools, Turkey 2016–2021
- [Cakilarasi Math Village](#) Five Selected Topics for an Introduction to Graph Theory, Turkey 10 - 14 Sep 2018

## CONTRIBUTED TALKS

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1. **Bilkent Math Graduate Seminars** October 2023  
*“Thomason’s Homotopy Colimit Theorem”*
2. **Bilkent Math Graduate Seminars** December 2022  
*“Simplicial Quantum Contextuality”*
3. **DRP Turkey Symposium** Aug 2022  
*“Seifert Van Kampen Theorem and Its Applications”*
4. **Network Oriented Dynamics and Data Science Research Group** Jul 2021  
*“Generalized Synchronization of Chaos”*
5. **Bahar Mathematics Meeting VI** October 2019  
*“An Algebraic Topological Proof of the Fundamental Theorem of Algebra”*
6. **Bahar Mathematics Meeting IV** October 2018  
*“An Introduction to Modern Geometry (Inversion)”*

## ORGANIZING

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- **IV. Mathematics Meeting, Middle East Technical University** Oct 2018  
Student seminars series. The meeting is held at different universities each semester and five to six hundred students attend.
- **V. Mathematics Meeting, Istanbul Bilgi University** March 2019
- **Home Seminars** Dec 2018–July 2019  
Organized up to 20 math seminars in my home with 30 students studying at METU, Hacettepe and Bilkent Universities.
- **VI. Mathematics Meeting, Hacettepe University** Oct 2019

## VOLUNTEERING

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| <b>Bilkent University Animal Friends Society</b>          | Ankara, Turkey<br>Aug 2022 – June 2023 |
| <b>Social Awareness Projects</b><br><b>School Teacher</b> | Ankara, Turkey<br>Aug 2020 – Jun 2021  |

## SKILLS AND HOBBIES

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- **Languages:** English (Fluent), Turkish (Native), German (A2.1)
- **Computer Skills:** Python, CPLEX, LaTeX, Html, Css
- **Hobbies:** Playing Saz, GO (Weichi), Fitness