MEHMET KIRTIŞOĞLU

Research Interest

- Interested in topological data analysis, algebraic (computational) topology; simplicial complexes and order complex, simplicial homology, persistent homology, and homotopy and the fundamental group.

- Worked on dynamics on complex networks and time series analysis by using tools from the fields of dynamical systems, statistical and computational physics, big data analysis and machine learning.

Education

Bilkent University   Ankara, Turkey
MSc. in Mathematics   2022–

  – Research Area: Algebraic Topology, Supervisor: Ergün Yalçın

Bilkent University   Ankara, Turkey
B.S. in Mathematics, CGPA: 3.10/4.00   2017–2022

  – Senior Project: "Reconstruction of Networks of Chaotic Systems", Advisor: Fatihcan Atay

Hatay Science High School   Hatay, Turkey
High School Student, GPA: 91.93/100   2013–2017

Taken Courses

- **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

- **In M.S.:** Manifold Theory, Introduction to Quantum Computation, Algebra II, Homology and Cohomology

Academic Experience

Network Oriented Dynamics and Data Science Research Group (NODDS)   Istanbul, Turkey
Internship   2020 Nov –Present

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

Bilkent University   Ankara, Turkey
Grading Assistant   2019 Sep –2020 Jan

  – MATH 220 Linear Algebra

Scholarships and Awards

2017-2022	**Outstanding Success Scholarship by Turkish Educational Foundation**
2017-2022	**National Undergraduate Scholarship Program (2205) by TÜBITAK**
	(The Scientific and Technological Research Council of Turkey)
2017-2022	**Comprehensive Scholarship of Bilkent University**
2017	**Ranked in first 5000 in Nationwide University Entrance Exam (LYS)**
	among 2 million high school students in Turkey
2017	**Ranked in first 5000 in Nationwide University Entrance Exam (YGS)**
	among 2 million high school students in Turkey

Contributed Talks

1. **Bilkent Math Graduate Seminars** — December 2022
   "Simplicial Quantum Contextuality"

2. **Network Oriented Dynamics and Data Science Research Group** — Jul 2021
   "Generalized Synchronization of Chaos"

3. **Bahar Mathematics Meeting VI** — October 2019
   "An Algebraic Topological Proof of the Fundamental Theorem of Algebra"

4. **Bahar Mathematics Meeting IV** — October 2018
   "An Introduction to Modern Geometry (Inversion)"

Organizing

- **IV. Mathematics Meeting, Middle East Technical University** — Oct 2019
  Student seminars series. The meeting is held at different universities each semester and five to six hundred students attend.

- **V. Mathematics Meeting, Hacettepe 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, Istanbul Bilgi University** — Oct 2018

Workshops

- [Nesin Math Village](#) Summer and Winter Schools, Turkey — 2016–2021
- [Cakilarasi Math Village](#) Summer Schools, Turkey — 2018

Volunteering

Social Awareness Projects — Ankara, Turkey
School Teacher — Aug 2020 –Jun 2021

Bahar Mathematics Meeting — Turkey
Web Designer — Jul 2018 –Nov 2019

Skills and Hobbies

- **Languages:** English (Fluent), Turkish (Native), German (A2.1)

- **Computer Skills:** Phyton, CPLEX, LaTeX, Html, Css

- **Hobbies:** Playing Saz, GO (Weichi), Chess, Fitness