

MERT ÜNSAL

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CONTACT INFORMATION

Department of Mathematics
Boğaziçi University
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EDUCATION

Boğaziçi University , Istanbul, Turkey <i>Mathematics M.Sc.</i>	2022–Present GPA: -
Boğaziçi University , Istanbul, Turkey <i>Mathematics B.Sc.</i>	2018–2022 GPA: 3.29

RESEARCH INTERESTS

Number theory, analysis, algebraic geometry

PUBLICATIONS

1. *The Infinitude of Primitive Abundant Numbers in Arithmetic Progressions*, preprint 2022. Accepted by Mathematics Magazine on 29.05.2022

RESEARCH EXPERIENCE

Working Group on the Arithmetic of Elliptic Curves Supervisor: Mohammad Sadek, Sabancı University	June 2022 - November 2022 <i>Arithmetic Statistics</i>
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- Determined the percentage of elliptic curves with root number 1 or -1 at each Kodaira type.
- This project started at the CIMPA Summer School on Applied Arithmetic. A report for the workshop is out, and a preprint concerning families of elliptic curves with fixed root number is to follow.

Research on Geometry of Numbers Supervisor: Alp Bassa, Boğaziçi University	March 2022 - June 2022 <i>Geometry of Numbers</i>
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- I had studied the properties of geometric objects on \mathbb{R}^n and their number theoretic consequences.

POSITIONS

Teaching Assistant, Boğaziçi University, 2022-Present

TEACHING

Math 102, Calculus II, Fall 2022, as a teaching assistant.

Math 231, Advanced Calculus I, Fall 2022, as a teaching assistant.

TALKS

The Infinitude of Primitive Abundant Numbers in Arithmetic Progressions (in Turkish) (video)
In this talk, I presented my results on primitive abundant numbers before my article is accepted.

WORKSHOPS

CIMPA Summer School on Applied Arithmetic

Nesin Mathematics Village

June 6-17, 2022

Arithmetic Statistics

- The workshop gathered master and Ph.D. students in small working groups on open questions.
- Attended lectures by Aurel Page (Université de Bordeaux) on algorithmic number theory.
- Worked with Mohammed Sadek on local root numbers of elliptic curves.

Rational Points on Curves over Finite Fields

Istanbul Center for Mathematical Sciences

May 24-28, 2021

Finite Fields

- Attended several lectures on Sage. Then using combinatorial, algebraic tools we tried to determine the existence of a curve over the finite field \mathbb{F}_{47} with 113 rational points.