

## Asst. Prof. BURAK KAYA

### Personal Information

**Email:** burakk@metu.edu.tr

**Web:** <http://blog.metu.edu.tr/burakk>

### International Researcher IDs

ScholarID: GPGf3okAAAAJ

ORCID: 0000-0002-9318-5360

Publons / Web Of Science ResearcherID: AAS-5827-2020

ScopusID: 57193827867

Yoksis Researcher ID: 271617

### Education Information

Doctorate, Rutgers, The State University of New Jersey, New Brunswick Campus, Graduate School-New Brunswick, Department Of Mathematics, United States Of America 2010 - 2016

Undergraduate, Middle East Technical University, Faculty of Arts and Sciences, Department of Mathematics, Turkey 2006 - 2010

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Cantor minimal systems from a descriptive perspective, Rutgers, The State University Of New Jersey, New Brunswick Campus, Graduate School-New Brunswick, Department Of Mathematics, 2016

### Research Areas

Mathematics, Dynamic Systems and Ergodic Theory, General Algebraic Systems, General Topology, Mathematical Logic and Foundations

### Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Mathematics, 2018 - Continues

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Mathematics, 2017 - 2018

Research Assistant, Rutgers, The State University of New Jersey, New Brunswick Campus, Graduate School-New Brunswick, Department Of Mathematics, 2010 - 2016

## Courses

BASIC ALGEBRAIC STRUCTURES, Undergraduate, 2022 - 2023, 2018 - 2019  
INTRODUCTION TO NUMBER THEORY, Undergraduate, 2023 - 2024  
SET THEORY, Undergraduate, 2022 - 2023, 2020 - 2021, 2018 - 2019, 2017 - 2018, 2016 - 2017  
INTRODUCTION TO MATHEMATICAL ANALYSIS, Undergraduate, 2023 - 2024  
FUNDAMENTALS OF MATHEMATICS, Undergraduate, 2022 - 2023, 2019 - 2020, 2018 - 2019  
ANALYSIS, Postgraduate, 2022 - 2023, 2019 - 2020  
CALCULUS WITH ANALYTIC GEOMETRY, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018  
SET THEORY, Doctorate, 2021 - 2022  
INTRODUCTION TO MATHEMATICAL LOGIC AND MODEL THEORY, Undergraduate, 2021 - 2022, 2019 - 2020  
INTRODUCTION TO FUNCTIONAL ANALYSIS, Undergraduate, 2021 - 2022  
CALCULUS OF FUNCTIONS OF SEVERAL VARIABLES, Undergraduate, 2020 - 2021, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016  
SUPERVISED INDEPENDENT STUDY & RESEARCH, Undergraduate, 2021 - 2022, 2019 - 2020  
TOPOLOGY, Postgraduate, 2020 - 2021  
LEBESGUE INTEGRAL, Undergraduate, 2017 - 2018

## Advising Theses

Benli M. G., Kaya B., SOFIC GROUPS, Postgraduate, H.KAĞAN(Student), Continues  
Kaya B., Dichotomy theorems and Frucht theorem in descriptive graph combinatorics, Postgraduate, O.BİLGE(Student), 2023  
Kaya B., Some new bounds on closed ordinal Ramsey numbers, Postgraduate, I.SAĞLAM(Student), 2020

## Designed Lessons

Benli M. G., Karayayla T., Pamuk S., Kaya B., Koçak Benli D., Introduction to Number Theory, Undergraduate, 2023 - 2024  
Benli M. G., Pamuk S., Kaya B., Karayayla T., Koçak Benli D., Calculus II, Undergraduate, 2023 - 2024  
Benli M. G., Pamuk S., Karayayla T., Kaya B., Koçak Benli D., Calculus I, Undergraduate, 2023 - 2024  
Kaya B., Talu E. Y., Solak E., Mathematics for Informatics, Undergraduate, 2018 - 2019

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Frucht's theorem in Borel setting**  
BİLGE O., KAYA B.  
Periodica Mathematica Hungarica, vol.88, no.1, pp.59-67, 2024 (SCI-Expanded)
- II. **Descriptive complexity of subsets of the space of finitely generated groups**  
BENLİ M. G., KAYA B.  
Expositiones Mathematicae, vol.40, no.4, pp.1116-1134, 2022 (SCI-Expanded)
- III. **Automorphisms of  $\kappa$ -existentially closed groups**  
KAYA B., KUZUCUOĞLU M.  
Monatshefte für Mathematik, vol.198, no.4, pp.791-804, 2022 (SCI-Expanded)
- IV. **ON THE CLOSED RAMSEY NUMBERS  $R\text{-cl}(\omega + n, 3)$**   
KAYA B., Sağlam I.  
ISRAEL JOURNAL OF MATHEMATICS, vol.245, no.2, pp.963-989, 2021 (SCI-Expanded)
- V. **On the existence of  $\kappa$ -existentially closed groups**  
Kaya B., Kegel O. H., Kuzucuoglu M.  
ARCHIV DER MATHEMATIK, vol.111, pp.225-229, 2018 (SCI-Expanded)

**VI. THE COMPLEXITY OF THE TOPOLOGICAL CONJUGACY PROBLEM FOR TOEPLITZ SUBSHIFTS**

Kaya B.

ISRAEL JOURNAL OF MATHEMATICS, vol.220, no.2, pp.873-897, 2017 (SCI-Expanded)

**VII. The complexity of topological conjugacy of pointed Cantor minimal systems**

Kaya B.

ARCHIVE FOR MATHEMATICAL LOGIC, vol.56, pp.215-235, 2017 (SCI-Expanded)

### **Articles Published in Other Journals**

**I. EXISTENTIALLY AND  $\kappa$ -EXISTENTIALLY CLOSED GROUPS**

KAYA B., KUZUCUOĞLU M.

International Journal of Group Theory, vol.12, no.1, pp.45-54, 2023 (ESCI)

### **Metrics**

Publication: 8

Citation (WoS): 3

Citation (Scopus): 4

H-Index (WoS): 1

H-Index (Scopus): 1