

## Assoc. Prof. GÖKHAN MUTLU

### Personal Information

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### International Researcher IDs

ScholarID: [\\_o3yyNoAAAAJ](#)

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Publons / Web Of Science ResearcherID: [ABB-1103-2020](#)

ScopusID: [56779755300](#)

Yoksis Researcher ID: [158367](#)

### Education Information

Post Doctorate, University of Nottingham, School of Mathematical Sciences, England 2022 - 2023

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Matematik (Dr), Turkey 2013 - 2018

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Matematik (YI) (Tezli), Turkey 2011 - 2013

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Matematik A.B.D., Turkey 2010 - 2011

Undergraduate, Ankara University, Fen Fakültesi, Matematik Bölümü, Turkey 2006 - 2010

### Foreign Languages

English, C2 Mastery

### Certificates, Courses and Trainings

Vocational Training, Networking in Applied Network Theory, COST Action CA18232, University of Warsaw, Banach Center, 2022

Vocational Training, Quantum Graphs and Quantum Random Walks, Lake Como School of Advanced Studies, 2019

Vocational Training, 2016 CRM Summer School, Spectral Theory and Applications, Laval University, 2016

Vocational Training, Yeni İş Tecrübeleri İçin Ankara Konsorsiyumu (YİTAK) - Erasmus+ Yurtdışı Staj Hareketliliği, Humboldt-Universität zu Berlin, 2015

### Dissertations

Doctorate, Operatör Katsayılı Kendine Eş Olmayan Sturm-Liouville Operatörünün Spektral Teorisi, Gazi University, Fen Bilimleri Enstitüsü, Matematik (Dr), 2018

Postgraduate, Örtü dönüşümleri grupları, Gazi University, Fen Bilimleri Enstitüsü, Matematik (YI) (Tezli), 2013

### Research Areas

Functional Analysis, Operators

## Academic Titles / Tasks

Associate Professor, Gazi University, Fen Fakültesi, Matematik, 2023 - Continues

Assistant Professor, Gazi University, Fen Fakültesi, Matematik, 2022 - 2023

Research Assistant, Gazi University, Fen Fakültesi, Matematik, 2011 - 2022

## Academic and Administrative Experience

Deputy Head of Department, Gazi University, Fen Fakültesi, Matematik, 2023 - 2024

## Courses

Maple ile Matematik, Undergraduate, 2023 - 2024

Diferensiyel Denklemler, Undergraduate, 2023 - 2024

Bilgisayar Destekli Matematik, Undergraduate, 2023 - 2024

Matematik II, Undergraduate, 2022 - 2023

Temel Fonksiyonel Analiz, Postgraduate, 2023 - 2024, 2022 - 2023

Araştırma Projesi I, Undergraduate, 2023 - 2024

Araştırma Projesi II, Undergraduate, 2022 - 2023

Spektral Analiz I, Undergraduate, 2021 - 2022

MATHEMATICS II, Undergraduate, 2020 - 2021

MATHEMATICS I, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020

Complex Analysis, Undergraduate, 2019 - 2020

MATEMATİK I, Undergraduate, 2019 - 2020

MATEMATİK II, Undergraduate, 2018 - 2019

FARK DENKLEMLERİ, Undergraduate, 2018 - 2019

REEL ANALİZ, Undergraduate, 2018 - 2019

MATEMATİK, Undergraduate, 2019 - 2020

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

- I. **Fractional Sturm-Liouville operators on compact star graphs**  
MUTLU G., Ugurlu E.  
DEMONSTRATIO MATHEMATICA, no.1, 2024 (SCI-Expanded)
- II. **A new representation and shape-preserving properties of perturbed Bernstein operators**  
Acu A., MUTLU G., ÇEKİM B., YAZICI S.  
Mathematical Methods in the Applied Sciences, vol.47, no.1, pp.5-14, 2024 (SCI-Expanded)
- III. **On quantum star graphs with eigenparameter dependent vertex conditions**  
Mutlu G., Uğurlu E.  
ANALYSIS AND MATHEMATICAL PHYSICS, vol.13, no.4, 2023 (SCI-Expanded)
- IV. **On the shape-preserving properties of  $\lambda$ -Bernstein operators**  
Su L., Mutlu G., Çekim B.  
Journal of Inequalities and Applications, vol.2022, no.1, 2022 (SCI-Expanded)
- V. **On the quotient quantum graph with respect to the regular representation**  
Mutlu G.  
Communications on Pure and Applied Analysis, vol.20, no.2, pp.885-902, 2021 (SCI-Expanded)
- VI. **Spectral properties of non-selfadjoint Sturm-Liouville operator equation on the real axis**  
MUTLU G., KIR ARPAT E.

- HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.49, no.5, pp.1686-1694, 2020 (SCI-Expanded)
- VII. **Spectral properties of non-selfadjoint Sturm Liouville operator with operator coefficient**  
Bairamov E., Arpat E., MUTLU G.  
JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, vol.456, no.1, pp.293-306, 2017 (SCI-Expanded)
- VIII. **Spectral properties of Sturm-Liouville system with eigenvalue-dependent boundary conditions**  
Kir Arpat E., Mutlu G.  
INTERNATIONAL JOURNAL OF MATHEMATICS, vol.26, no.10, 2015 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Eigenvalues of infinite non-compact star graph**  
Mutlu G.  
Advanced Studies: Euro-Tbilisi Mathematical Journal, vol.10, pp.269-275, 2022 (ESCI)
- II. **Spectrum of Discrete Sturm-Liouville Equation with Selfadjoint Operator Coefficients on the Half-line**  
Mutlu G.  
İğdır Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.11, no.4, pp.3055-3062, 2021 (Peer-Reviewed Journal)
- III. **Resolvent Operator of the Matrix Schrödinger Equation on the Half-Line with Quasi-selfadjoint Potential**  
Mutlu G.  
Gazi University Journal of Science Part A: Engineering and Innovation, vol.8, no.2, pp.197-207, 2021 (Peer-Reviewed Journal)
- IV. **Spectral analysis of non-selfadjoint matrix Schrödinger equation on the half-line with general boundary condition at the origin**  
Mutlu G.  
Tbilisi Mathematical Journal, vol.8, pp.227-236, 2021 (ESCI)
- V. **Kompakt Olmayan Yıldız Graf Üzerindeki Selfadjoint Olmayan Schrödinger Operatörünün Spektral Analizi**  
Mutlu G.  
Gazi Üniversitesi Fen Fakültesi Dergisi, vol.2, no.1, pp.1-12, 2021 (Peer-Reviewed Journal)
- VI. **ASSOCIATED FUNCTIONS OF NON-SELFADJOINT STURM-LIOUVILLE OPERATOR WITH OPERATOR COEFFICIENT**  
MUTLU G.  
TWMS JOURNAL OF APPLIED AND ENGINEERING MATHEMATICS, vol.11, no.1, pp.113-121, 2021 (ESCI)
- VII. **Spectral Analysis of Non-selfadjoint Second Order Difference Equation with Operator Coefficient**  
MUTLU G., KIR ARPAT E.  
Sakarya University Journal of Science, vol.24, no.3, pp.501-507, 2020 (Peer-Reviewed Journal)
- VIII. **SPECTRAL PROPERTIES OF THE SECOND ORDER DIFFERENCE EQUATION WITH SELFADJOINT OPERATOR COEFFICIENTS**  
MUTLU G.  
COMMUNICATIONS FACULTY OF SCIENCES UNIVERSITY OF ANKARA-SERIES A1 MATHEMATICS AND STATISTICS, vol.69, no.1, pp.88-96, 2020 (ESCI)

## Books & Book Chapters

- I. **Bölüm Kuantum Grafları**  
MUTLU G.  
in: Fen Bilimleri ve Matematikte Araştırma ve Değerlendirmeler (Cilt 1), Prof. Dr. Hasan AKGÜL, Prof. Dr. Hasan Hüseyin DOĞAN, Doç. Dr. Mehmet YÜKSEL, Dr. Onur Karaman, Editor, Gece Kitaplığı, Ankara, pp.61-78, 2021
- II. **Kuantum Graflara Kısa Bir Giriş**

MUTLU G.

in: Fen Bilimleri ve Matematikte Araştırma ve Değerlendirmeler (Cilt 2), Prof. Dr. Hasan AKGÜL, Prof. Dr. Hasan Hüseyin DOĞAN, Doç. Dr. Mehmet YÜKSEL, Dr. Onur Karaman, Editor, Gece Kitaplığı, Ankara, pp.127-144, 2021

## Refereed Congress / Symposium Publications in Proceedings

- I. **Centrality measures for networks**  
Arabajalı M. M. F., Mutlu G.  
KARADENİZ 15TH INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, Rize, Turkey, 8 - 10 March 2024, pp.61
- II. **Odd-order Symmetric Operators on Compact Star Graphs**  
Mutlu G., Uğurlu E.  
2nd International E-Conference on Mathematical and Statistical Sciences: A Selçuk Meeting, Konya, Turkey, 5 - 07 July 2023, pp.156-157
- III. **Quantum Graph Realization of Transmission Problems**  
MUTLU G.  
3rd International Conference on Mathematics and its Applications in Science and Engineering, ICMASE 2022, Bucharest, Romania, 4 - 07 July 2022, vol.414, pp.23-31
- IV. **Eigenvalues of infinite non-compact star graph**  
MUTLU G.  
2nd INTERNATIONAL ONLINE CONFERENCE ON DIFFERENTIAL EQUATIONS, CONTROL AND OPTIMIZATION, İstanbul, Turkey, 27 October 2021
- V. **SPECTRAL ANALYSIS OF NON-SELFADJOINT SCHRÖDINGER OPERATOR ON NON-COMPACT STAR GRAPH**  
Mutlu G.  
3. Ulusal Başkent Disiplinler Arası Bilimsel Çalışmalar Kongresi, Ankara, Turkey, 14 - 15 March 2021, pp.187-188
- VI. **Spectral Analysis of Non-selfadjoint MatrixSchrödinger Operator on the Half-line with General Boundary Conditions at Origin**  
MUTLU G.  
4th International Conference on Mathematics, İstanbul, Turkey, 27 - 30 October 2020
- VII. **EIGENVALUES OF THE SELFADJOINT SCHRÖDINGER OPERATOR ON NON-COMPACT STAR GRAPH**  
MUTLU G.  
International Conference on Mathematics and Its Applications in Science and Engineering (ICMASE 2020), Ankara, Turkey, 9 - 10 July 2020
- VIII. **Non-selfadjoint Sturm-Liouville Operatör DenklemininEsas Fonksiyonlar**  
MUTLU G.  
14. Ankara Matematik Günleri, Ankara, Turkey, 28 - 29 June 2019
- IX. **Discrete Spectrum of the Discrete Sturm-Liouville Operator Equation**  
MUTLU G.  
6th International Symposium on Academic Studies in Science, Engineering andArchitecture Sciences, Ankara, Turkey, 13 - 15 June 2019
- X. **Spectral Analysis of Non-selfadjointSturm-Liouville Operator on the Real Line withOperator Coefficient**  
MUTLU G., BAYRAM E., KIR ARPAT E.  
The 3rd International Conference on Natural Science and Applied Mathematics(ICNSAM 2018), 15 - 18 June 2018
- XI. **Spectral Properties of Non-selfadjoint Sturm-Liouville Operator with Operator Coefficient**  
BAYRAM E., KIR ARPAT E., MUTLU G.  
INTERNATIONAL WORKSHOP ON MATHEMATICAL METHODS IN ENGINEERING, 27 - 29 April 2017

## Supported Projects

Mutlu G., Kramar Fijavz M., Nakić I., Mugnolo D., EU Supported Other Project, COST Action CA18232 Mathematical models for interacting dynamics on networks, 2019 - 2023

## Scientific Refereeing

ANALYSIS AND MATHEMATICAL PHYSICS, Journal Indexed in SCI-E, September 2023

OPEN MATHEMATICS, SCI Journal, February 2023

Universal Journal of Mathematics and Applications, Other Indexed Journal, January 2023

ABSTRACT AND APPLIED ANALYSIS, Other Indexed Journal, January 2023

MATHEMATICAL COMMUNICATIONS, SCI Journal, September 2022

HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, SCI Journal, April 2022

Advances in Differential equations and control processes, Journal Indexed in ESCI, July 2021

## Scientific Research / Working Group Memberships

Analysis Of Aquatic Food Webs Based On Weighted Empirical Networks, Varsova Üniversitesi, Poland,

<https://nant.mimuw.edu.pl/projects/miskrzynski/>, 2022 - Continues

Variational Methods On Graphs And Networks, COST Action CA18232 Mathematical models for interacting dynamics on networks, Belgium, <https://mat-dyn-net.eu/en/working-groups/wg4>, 2021 - Continues

## Metrics

Publication: 29

Citation (WoS): 23

Citation (Scopus): 22

H-Index (WoS): 4

H-Index (Scopus): 3

## Congress and Symposium Activities

2nd International E-Conference on Mathematical and Statistical Science: A Selcuk Meeting, Attendee, Konya, Turkey, 2023

3rd International Conference on Mathematics and its Applications in Science and Engineering, Session Moderator, Bucuresti, Romania, 2022

3rd International Conference on Mathematics and its Applications in Science and Engineering, Attendee, Bucuresti, Romania, 2022

2nd INTERNATIONAL ONLINE CONFERENCE ON DIFFERENTIAL EQUATIONS, CONTROL AND OPTIMIZATION, Attendee, İstanbul, Turkey, 2021

Attendee, Ankara, Turkey, 2021

4th International Conference on Mathematics, Attendee, İstanbul, Turkey, 2020

International Conference on Mathematics and Its Applications in Science and Engineering (ICMASE 2020), Attendee, Ankara, Turkey, 2020

Quantum Graphs and Quantum Random Walks, Attendee, Milan, Italy, 2019

Attendee, Ankara, Turkey, 2019

6th International Symposium on Academic Studies in Science, Engineering and Architecture Sciences, Attendee, Ankara, Turkey, 2019

The 3rd International Conference on Natural Science and Applied Mathematics (ICNSAM 2018), Attendee, Praha, Czech

Republic, 2018

INTERNATIONAL WORKSHOP ON MATHEMATICAL METHODS IN ENGINEERING, Attendee, Ankara, Turkey, 2017

2016 CRM Summer School, Spectral Theory and Applications, Audience, Quebec, Canada, 2016

## **Scholarships**

Cost Action Short-term Scientific Mission Grant, University, 2023 - 2023

TÜBİTAK 2219 International Postdoctoral Research Fellowship Program for Turkish Citizens, TUBITAK, 2022 - 2023

## **Awards**

Mutlu G., TÜBİTAK Yayın Teşvik Ödülü , Tübitak, June 2021

Mutlu G., Kır Arpat E., Gazi Üniversitesi Bilimsel Yayınları Teşvik Ödülü, Gazi Üniversitesi, June 2021

Bayram E., Kır Arpat E., Mutlu G., TÜBİTAK Yayın Teşvik Ödülü, Tübitak, March 2018

Kır Arpat E., Mutlu G., TÜBİTAK Yayın Teşvik Ödülü, Tübitak, February 2017

Kır Arpat E., Mutlu G., Gazi Üniversitesi Bilimsel Yayınları Teşvik Ödülü, Gazi Üniversitesi , April 2016

## **Non Academic Experience**

University of Nottingham

Humboldt-Universität zu Berlin

Università Degli Studi di Milano