

## Assoc. Prof. Sevilay DEMİR SAĞLAM

### Personal Information

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### International Researcher IDs

ScholarID: D-E5-x0AAAAJ

ORCID: 0000-0003-4615-6863

Publons / Web Of Science ResearcherID: AAE-5380-2020

ScopusID: 57221150846

Yoksis Researcher ID: 45506

### Education Information

Doctorate, Istanbul University, Institute of Graduate Studies In Sciences, Matematik, Turkey 2012 - 2017

Postgraduate, Istanbul University, Institute of Graduate Studies In Sciences, Matematik, Turkey 2009 - 2011

Undergraduate, Sakarya University, Fen Fakültesi, Matematik, Turkey 2005 - 2009

### Foreign Languages

English, B2 Upper Intermediate

### Certificates, Courses and Trainings

Measurement and Evaluation, Eğitimde Ölçme-Değerlendirme İlkelerine Uygun Sınav Hazırlama Yöntemleri, İstanbul Üniversitesi, 2021

Vocational Training, Eğiticinin Eğitimi Sertifika Programı, İstanbul Üniversitesi, 2021

Occupational Health and Safety, İş Sağlığı ve Güvenliği, İstanbul Üniversitesi, 2021

Education Management and Planning, İstanbul Üniversitesi Hasan Ali Yücel Eğitim Fakültesi, Pedagojik Formasyon Sertifikası, 2014

### Dissertations

Doctorate, Yüksek Mertebeden Polihedral Optimizasyon, Istanbul University, Institute of Graduate Studies In Sciences, Matematik, 2017

Postgraduate, Sonlu Boyutlu Uzaylarda Matematik Programlama ve Dualite, Istanbul University, Institute of Graduate Studies In Sciences, Matematik, 2011

## Research Areas

Mathematics, Optimization, Natural Sciences

## Academic Titles / Tasks

Associate Professor, Istanbul University, Faculty Of Science, Department Of Mathematics, 2024 - Continues

Assistant Professor, Istanbul University, Faculty Of Science, Department Of Mathematics, 2022 - 2024

Research Assistant PhD, Istanbul University, Faculty of Science, Department of Mathematics, 2017 - 2022

Research Assistant, Istanbul University, Faculty of Science, Department of Mathematics, 2012 - 2017

## Academic and Administrative Experience

Rectorate Commissioner, Istanbul University, Faculty Of Science, Department of Mathematics, 2014 - Continues

Bölüm Kalite Komisyonu Üyesi, Istanbul University, Faculty Of Science, Department of Mathematics, 2017 - 2018

Erasmus Program Department Coordinator, Istanbul University, Faculty Of Science, Department of Mathematics, 2013 - 2018

Internship Committee Member, Istanbul University, Faculty Of Science, Department of Mathematics, 2013 - 2018

## Courses

MATEMATİĞİN TEMELLERİ VE MANTIK II-Eski Müfredat, Undergraduate, 2022 - 2023

GENEL MATEMATİK I, Undergraduate, 2023 - 2024

GENEL MATEMATİK II, Undergraduate, 2022 - 2023

LİNEER CEBİR, Undergraduate, 2022 - 2023

MATEMATİK, Undergraduate, 2023 - 2024

MATEMATİĞİN TEMELLERİ VE MANTIK I, Undergraduate, 2023 - 2024, 2022 - 2023

CALCULUS I, Undergraduate, 2023 - 2024

MATEMATİĞİN TEMELLERİ VE MANTIK I-Eski Müfredat, Undergraduate, 2022 - 2023

KİŞİSEL PROJE III, Undergraduate, 2022 - 2023

## Jury Memberships

Post Graduate, Post Graduate, İstanbul Üniversitesi, June, 2023

Post Graduate, Post Graduate, İstanbul Üniversitesi, June, 2023

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

- I. **Duality in the problems of optimal control described by Darboux-type differential inclusions**  
DEMİR SAĞLAM S.  
OPTIMIZATION LETTERS, 2024 (SCI-Expanded)
- II. **Convex optimization of nonlinear inequality with higher order derivatives**  
Demir Sağlam S., Mahmudov E. N.  
APPLICABLE ANALYSIS, vol.102, no.5, pp.1473-1489, 2023 (SCI-Expanded)
- III. **Polyhedral optimization of discrete and partial differential inclusions of parabolic type**  
DEMİR SAĞLAM S.  
Optimization, vol.72, no.8, pp.2175-2197, 2023 (SCI-Expanded)

- IV. **Necessary and sufficient conditions of optimality for second order discrete and differential inequalities**  
Mahmudov E., Demir Sağlam S.  
GEORGIAN MATHEMATICAL JOURNAL, vol.29, no.3, pp.407-424, 2022 (SCI-Expanded)
- V. **Duality Problems with Second-Order Polyhedral Discrete and Differential Inclusions**  
Sağlam S., Mahmudov E. N.  
BULLETIN OF THE IRANIAN MATHEMATICAL SOCIETY, vol.48, no.2, pp.537-562, 2022 (SCI-Expanded)
- VI. **On duality in convex optimization of second-order differential inclusions with periodic boundary conditions**  
DEMİR SAĞLAM S., Mahmudov E.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.51, no.6, pp.1588-1599, 2022 (SCI-Expanded)
- VII. **THE LAGRANGE PROBLEM FOR DIFFERENTIAL INCLUSIONS WITH BOUNDARY VALUE CONDITIONS AND DUALITY**  
Demir Sağlam S., Mahmudov E.  
PACIFIC JOURNAL OF OPTIMIZATION, vol.17, no.2, pp.209-225, 2021 (SCI-Expanded)
- VIII. **Polyhedral optimization of second-order discrete and differential inclusions with delay**  
SAĞLAM S., Mahmudov E.  
TURKISH JOURNAL OF MATHEMATICS, vol.45, no.1, pp.244-263, 2021 (SCI-Expanded)
- IX. **Optimality Conditions for Higher Order Polyhedral Discrete and Differential Inclusions**  
DEMİR SAĞLAM S., Mahmudov E.  
FILOMAT, vol.34, no.13, pp.4533-4553, 2020 (SCI-Expanded)
- X. **Optimization of third-order discrete and differential inclusions described by polyhedral set-valued mappings**  
Mahmudov E., Demir S., Deger Ö.  
APPLICABLE ANALYSIS, vol.95, no.9, pp.1831-1844, 2016 (SCI-Expanded)

## Articles Published in Other Journals

- I. **The Optimality Principle For Second-order Discrete and Discrete-Approximate Inclusions**  
Demir Sağlam S.  
An International Journal of Optimization and Control: Theories & Applications (IJOCTA), vol.11, no.2, pp.206-215, 2021 (Scopus)
- II. **Optimization of boundary value problems for third order polyhedral differential inclusions**  
Demir Sağlam S., Mahmudov E.  
Communications in Optimization Theory, vol.2018, pp.1-9, 2018 (Scopus)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Duality Results for a Class of Control Problems with Partial Differential Inclusions**  
Demir Sağlam S.  
The 30th Conference on Applied and Industrial Mathematics CAIM 2023, Iasi, Romania, 14 - 17 September 2023, pp.51-52
- II. **Diskret ve Kısmi Diferansiyel İçermeli Polihedral Optimizasyon Problemleri**  
Demir Sağlam S.  
35. Ulusal Matematik Sempozyumu, Edirne, Turkey, 4 - 08 September 2023, pp.99
- III. **Optimization of one Semilinear Higher-Order Retarded problem using Mahmudov's adjoint inclusions**  
Demir Sağlam S., Mastaliyev D.  
The 8th International Conference on Control and Optimization with Industrial Applications, Baku, Azerbaijan, 24 -

26 August 2022, pp.429-431

- IV. **Parabolic Optimal Control Problems Described by Partial Differential Inclusions**  
Demir Sağlam S., Mahmudov E.  
International Conference on Applied Mathematics in Engineering (ICAME), Balıkesir, Turkey, 1 - 03 September 2021, pp.85
- V. **Optimization of Discrete-approximation Problem and Equivalence Theorem of Subdifferential**  
Demir Sağlam S., Mahmudov E.  
II. International Conference on Mathematics and its Applications in Science and Engineering, Salamanca, Spain, 1 - 02 July 2021, pp.65-66
- VI. **The Duality of Convex Optimization Problem for Differential Inclusions**  
Demir Sağlam S., Mahmudov E.  
5. International Conference of Mathematical Sciences (ICMS 2021), İstanbul, Turkey, 23 - 26 June 2021, pp.52
- VII. **Optimization of bolza problem for third-order polyhedral delay-differential inclusions with state constraints**  
DEMİR SAĞLAM S., Mahmudov E.  
4th International Conference of Mathematical Sciences, ICMS 2020, İstanbul, Turkey, 17 - 21 June 2020, vol.2334
- VIII. **Optimal Control of Higher Order Differential Inequalities**  
Demir Sağlam S., Mahmudov E.  
4th International Conference on Mathematics: An Istanbul Meeting for World Mathematicians, İstanbul, Turkey, 27 - 30 October 2020, pp.135
- IX. **Polyhedral Problems of Optimal Control Given by Discrete and Differential Inclusions and Duality**  
Demir Sağlam S., Mahmudov E.  
7th International Conference on Recent Advances in Pure and Applied Mathematics, Muğla, Turkey, 25 - 28 September 2020, pp.95
- X. **ON THE DUALITY THEORY OF MAYER PROBLEM WITH DELAY-DIFFERENTIAL INCLUSIONS AND INITIAL CONSTRAINTS**  
Saglam S. D., Mahmudov E.  
7th International Conference on Control and Optimization with Industrial Applications (COIA), ELECTR NETWORK, 26 - 28 August 2020, pp.353-355
- XI. **Sufficient Conditions of Optimality for Free Time Optimization of Third Order Differential Inclusions**  
Saglam S. D., Mahmudov E. N.  
3rd International Conference of Mathematical Sciences (ICMS), İstanbul, Turkey, 4 - 08 September 2019, vol.2183
- XII. **Necessary and Sufficient Conditions of Optimality for Convex Discrete and Differential Inclusions**  
DEMİR SAĞLAM S.  
International Conference of Mathematical Sciences, İstanbul, Turkey, 31 July - 06 August 2018, pp.73
- XIII. **Free Time Optimization of Third Order Differential Inclusions with Endpoint Constraints**  
DEMİR SAĞLAM S.  
International Conference of Mathematical Sciences (ICMS 2018), İstanbul, Turkey, 31 July - 06 August 2018, pp.74
- XIV. **Optimization of Higher Order Polyhedral Discrete and Differential Inclusions**  
DEMİR S., Mahmudov E.  
International Conference on Analysis and Its Applications, Kırşehir, Turkey, 12 - 15 July 2016, pp.277
- XV. **Sufficient Conditions of Optimality for Third Order Polyhedral Differential Inclusions with Boundary Value Constraints**  
DEMİR S., Mahmudov E.  
5th International Conference on Control and Optimization with Industrial Applications, Baku, Azerbaijan, 27 - 29 August 2015, pp.58-61
- XVI. **Approximation and Optimization of Third Order Polyhedral Discrete and Differential Inclusions**  
Demir S., Mahmudov E.  
13th Viennese Workshop on Optimal Control and Dynamic Games, Vienna, Austria, 13 - 16 May 2015, pp.131

## Supported Projects

Bekdeřer B., Bener M., Apak M. R., Demir Saęlam S., TUBITAK Project, Toplam tiyol tayini iin yeni bir spektrofotometrik yntem geliřtirilmesi, 2019 - 2021

DEMİR SAĞLAM S., MAHMUDOV E., DEĞER Ö., Project Supported by Higher Education Institutions, Optimization of Third Order Discrete and Differential Inclusions Described by Polyhedral Set-Valued Mappings, 2018 - 2019

DEĞER Ö., DEMİR SAĞLAM S., Project Supported by Higher Education Institutions, Approximation and Optimization of Third Order Polyhedral Discrete And Differential Inclusions, 2015 - 2017

## Memberships / Tasks in Scientific Organizations

American Mathematical Society, Member, 2022 - Continues, United States Of America

SIAM-Society for Industrial and Applied Mathematics, Member, 2021 - Continues, United States Of America

Türk Matematik Derneęi, Member, 2014 - Continues, Turkey

## Scientific Refereeing

JOURNAL OF INDUSTRIAL AND MANAGEMENT OPTIMIZATION, Journal Indexed in SCI-E, April 2024

OPTIMIZATION LETTERS, Journal Indexed in SCI-E, January 2021

## Tasks In Event Organizations

Demir Saęlam S., 5. International Conference of Mathematical Sciences (ICMS 2021), Scientific Congress, İstanbul, Turkey, Haziran 2021

## Metrics

Publication: 28

Citation (WoS): 36

Citation (Scopus): 37

H-Index (WoS): 3

H-Index (Scopus): 4

## Congress and Symposium Activities

The 30th Conference on Applied and Industrial Mathematics , Attendee, Iasi, Romania, 2023

35. Ulusal Matematik Sempozyumu, Attendee, Edirne, Turkey, 2023

The 8th International Conference on Control and Optimization with Industrial Applications, Attendee, Baku, Azerbaijan, 2022

The 8th International Conference on Control and Optimization with Industrial Applications, Attendee, Baku, Azerbaijan, 2022

International Conference on Applied Mathematics in Engineering , Attendee, Balıkesir, Turkey, 2021

Salgın Hastalıkların Yayılımında Matematiksel Modeller, Audience, İstanbul, Turkey, 2021

II. International Conference on Mathematics and its Applications in Science and Engineering, Attendee, Salamanca, Spain, 2021

5. International Conference of Mathematical Sciences (ICMS 2021), Attendee, İstanbul, Turkey, 2021

4th International Conference on Mathematics: An Istanbul Meeting for World Mathematicians, Attendee, İstanbul,

Turkey, 2020

7th International Conference on Recent Advances in Pure and Applied Mathematics, Attendee, Muğla, Turkey, 2020

The 7th International Conference on Control and Optimization with Industrial Applications, Attendee, Baku, Azerbaijan, 2020

Fourth International Conference of Mathematical Sciences, Session Moderator, İstanbul, Turkey, 2020

International Conference of Mathematical Sciences(ICMS2019), Attendee, İstanbul, Turkey, 2019

International Conference of Mathematical Sciences (ICMS2018), Attendee, İstanbul, Turkey, 2018

International Conference on Analysis and Its Applications, Attendee, Kırşehir, Turkey, 2016

5th International Conference on Control and Optimization with Industrial Applications, Attendee, Bakü, Azerbaijan, 2015

13th Viennese Workshop on Optimal Control and Dynamic Games, Attendee, Viyana, Austria, 2015

Istanbul Analysis Graduate Seminars, Attendee, İstanbul, Turkey, 2012

Workshop on Global Optimization, Attendee, İzmir, Turkey, 2011

## **Scholarships**

2211-Yurtiçi Doktora Bursu, TÜBİTAK, 2012 - 2018

## **Awards**

Demir Sağlam S., "Matematik Bölümü Mezuniyeti (İkincilik Ödülü), Sakarya Üniversitesi Fen Fakültesi, June 2009