

## **Personal Information**

**Web:** <https://avesis.deu.edu.tr/meltem.topcuoglu>

### **International Researcher IDs**

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Publons / Web Of Science ResearcherID: AAR-7626-2020

ScopusID: 27367463500

Yoksis Researcher ID: 142420

## **Education Information**

Doctorate, Dokuz Eylul University, Fen Fakültesi, Matematik Bölümü, Turkey 2005 - 2010

Postgraduate, Dokuz Eylul University, Fen Fakültesi, Matematik Bölümü, Turkey 2003 - 2005

Undergraduate, Dokuz Eylul University, Fen Fakültesi, Matematik Bölümü, Turkey 1999 - 2003

## **Foreign Languages**

English, B2 Upper Intermediate

## **Dissertations**

Doctorate, Mathematical models and methods of wave theory, Dokuz Eylul University, Fen Bilimleri Enstitüsü, 2010

Postgraduate, Initial boundary value problem for the elasticity system in the spherical domain, Dokuz Eylul University, Fen Bilimleri Enstitüsü, 2005

## **Research Areas**

Differential Equations

## **Academic Titles / Tasks**

Lecturer, Dokuz Eylul University, Fen Fakültesi, Matematik Bölümü, 2011 - Continues

Research Assistant, Dokuz Eylul University, Fen Fakültesi, Matematik Bölümü, 2004 - 2011

## **Courses**

CALCULUS II, Undergraduate, 2023 - 2024, 2022 - 2023, 2020 - 2021, 2016 - 2017, 2014 - 2015, 2010 - 2011

Project, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2018 - 2019, 2015 - 2016, 2014 - 2015, 2012 - 2013

MATEMATİK I, Undergraduate, 2023 - 2024, 2021 - 2022, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2013 - 2014, 2012 - 2013

GRADUATION PROJECT, Undergraduate, 2023 - 2024  
 CALCULUS I, Undergraduate, 2023 - 2024, 2022 - 2023, 2016 - 2017, 2011 - 2012  
 Linear Algebra, Undergraduate, 2021 - 2022  
 Partial Differential Equations, Undergraduate, 2021 - 2022, 2020 - 2021, 2014 - 2015, 2013 - 2014, 2011 - 2012  
 MATEMATİKTE SEÇME KONULAR, Undergraduate, 2021 - 2022  
 Applied Mathematics, Undergraduate, 2022 - 2023, 2015 - 2016, 2014 - 2015  
 DIFFERENTIAL EQUATIONS, Undergraduate, 2021 - 2022  
 MATEMATİK III, Undergraduate, 2020 - 2021, 2018 - 2019, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2011 - 2012  
 Matematik II, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2013 - 2014, 2011 - 2012, 2010 - 2011  
 Differential Equations II, Undergraduate, 2017 - 2018, 2016 - 2017  
 CALCULUS III, Undergraduate, 2018 - 2019  
 İLERİ ANALİZ I, Undergraduate, 2018 - 2019  
 Diferensiyel Denklemler, Undergraduate, 2017 - 2018  
 BÖLÜM İÇİ SEÇMELİ PROJE, Undergraduate, 2017 - 2018, 2016 - 2017  
 Differential Equations I, Undergraduate, 2017 - 2018, 2016 - 2017  
 Applied Mathematics, Postgraduate, 2014 - 2015  
 Lineer Cebir, Undergraduate, 2012 - 2013  
 Engineering Mathematics, Undergraduate, 2011 - 2012

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

- I. **Solving elastodynamic problems of 2D quasicrystals in inhomogeneous media**  
 ALTUNKAYNAK M.  
 Applications of Mathematics, 2024 (SCI-Expanded)
- II. **Initial value problem for elastic system in transversely isotropic inhomogeneous media**  
 Altunkaynak M.  
 TURKISH JOURNAL OF MATHEMATICS, vol.46, pp.2714-2727, 2022 (SCI-Expanded)
- III. **An analytical method for solving elastic system in inhomogeneous orthotropic media**  
 Altunkaynak M.  
 MATHEMATICAL METHODS IN THE APPLIED SCIENCES, vol.42, no.7, pp.2324-2333, 2019 (SCI-Expanded)
- IV. **Symbolic computation of the time-dependent electric and magnetic fields in bi-anisotropic media with polynomial inputs**  
 Yakhno V., ALTUNKAYNAK M.  
 INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS, vol.31, no.5, 2018 (SCI-Expanded)
- V. **Coefficient identification for cubically anisotropic elastic media**  
 ALTUNKAYNAK M., Sacks P., Yakhno V. G.  
 INVERSE PROBLEMS IN SCIENCE AND ENGINEERING, vol.24, no.4, pp.567-582, 2016 (SCI-Expanded)
- VI. **A polynomial approach to determine the time-dependent electric and magnetic fields in anisotropic materials by symbolic computations**  
 Yakhno V., ALTUNKAYNAK M.  
 COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING, vol.35, no.3, pp.1179-1202, 2016 (SCI-Expanded)
- VII. **A new method for computing a solution of the Cauchy problem with polynomial data for the system of crystal optics**  
 Yakhno V., Altunkaynak M.  
 INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, vol.87, no.7, pp.1469-1484, 2010 (SCI-Expanded)

## **Metrics**

Publication: 12

Citation (WoS): 13

Citation (Scopus): 12

H-Index (WoS): 3

H-Index (Scopus): 2

## **Congress and Symposium Activities**

International Congress On Fundamental And Applied Sciences, Attendee, Antalya, Turkey, 2021

4. Sayısal Analiz ve Uygulamaları Konferansı, Attendee, Plovdiv, Bulgaria, 2008