

## Assoc. Prof. MELİS ZORŞAHİN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAH-1145-2020

ScopusID: 57053059300

Yoksis Researcher ID: 184852

### Education Information

Doctorate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik-Bilgisayar Bilimleri (Dr), Turkey  
2010 - 2016

Undergraduate, Anadolu University, Faculty Of Business Administration, Department Of Business, Turkey 2008 - 2010

Postgraduate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik (YI) (Tezli), Turkey 2007 - 2009

Associate Degree, Anadolu University, Open Education Faculty, Department Of Finance, Banking And Insurance, Turkey  
2005 - 2008

Undergraduate, Eskisehir Osmangazi University, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey 2003 - 2007

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Zamana bağlı kısmi diferensiyel denklemlerin üstel B-spline Galerkin sonlu elemanlar yöntemiyle sayısal çözümleri, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik-Bilgisayar Bilimleri (Dr), 2016

Postgraduate, Polinom ve polinom olmayan spline fonksiyonlar yardımıyla bazı kısmi diferensiyel denklemlerin sayısal çözümleri, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik (YI) (Tezli), 2009

### Research Areas

Differential Equations, Numerical Analysis

### Academic Titles / Tasks

Associate Professor, Eskisehir Osmangazi University, FEN FAKÜLTESİ, MATEMATİK VE BİLGİSAYAR BİLİMLERİ BÖLÜMÜ,  
2024 - Continues

Lecturer PhD, Eskisehir Osmangazi University, FEN FAKÜLTESİ, MATEMATİK VE BİLGİSAYAR BİLİMLERİ BÖLÜMÜ, 2011  
- 2024

## Courses

Genel Matematik, Undergraduate, 2017 - 2018  
Nümerik Analiz, Undergraduate, 2017 - 2018, 2016 - 2017  
Mühendislik Matematiği, Undergraduate, 2017 - 2018, 2016 - 2017  
Matematik II, Undergraduate, 2017 - 2018, 2016 - 2017  
Matematik, Undergraduate, 2017 - 2018, 2016 - 2017  
Analiz II, Undergraduate, 2017 - 2018  
Diferensiyel Denklemler, Undergraduate, 2017 - 2018  
Genel Matematik II, Undergraduate, 2017 - 2018  
Diferensiyel Denklemler II, Undergraduate, 2016 - 2017  
Matematik I, Undergraduate, 2016 - 2017

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

- I. **High order accurate method for the numerical solution of the second order linear hyperbolic telegraph equation**  
Kirli E., IRK D., ZORŞAHİN GÖRGÜLÜ M.  
NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS, vol.39, no.3, pp.2060-2072, 2023 (SCI-Expanded)
- II. **A High Order Accurate Numerical Solution of the Klein-Gordon Equation**  
IRK D., Kirli E., ZORŞAHİN GÖRGÜLÜ M.  
Applied Mathematics and Information Sciences, vol.16, no.2, pp.331-339, 2022 (SCI-Expanded)
- III. **Nonic B-spline algorithms for numerical solution of the Kawahara equation**  
ZORŞAHİN GÖRGÜLÜ M.  
Turkish Journal of Mathematics, vol.46, no.7, pp.2890-2901, 2022 (SCI-Expanded)
- IV. **GALERKIN METHODS FOR THE NUMERICAL SOLUTION OF THE SCHRÖDINGER EQUATION BY USING TRIGONOMETRIC B-SPLINES**  
Mersin M., IRK D., ZORŞAHİN GÖRGÜLÜ M.  
Miskolc Mathematical Notes, vol.23, no.1, pp.363-380, 2022 (SCI-Expanded)
- V. **Quartic trigonometric B-spline algorithm for numerical solution of the regularized long wave equation**  
IRK D., Keskin Yildiz P., ZORŞAHİN GÖRGÜLÜ M.  
TURKISH JOURNAL OF MATHEMATICS, vol.43, no.1, pp.112-125, 2019 (SCI-Expanded)
- VI. **Exponential B-splines Galerkin Method for the Numerical Solution of the Fisher's Equation**  
ZORŞAHİN GÖRGÜLÜ M., Dag İ.  
IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY TRANSACTION A-SCIENCE, vol.42, pp.2189-2198, 2018 (SCI-Expanded)
- VII. **Simulations of solitary waves of RLW equation by exponential B-spline Galerkin method**  
ZORŞAHİN GÖRGÜLÜ M., Dag İ., IRK D.  
CHINESE PHYSICS B, vol.26, no.8, 2017 (SCI-Expanded)
- VIII. **Trigonometric quadratic B-spline subdomain Galerkin algorithm for the Burgers' equation**  
Ay B., Dag İ., ZORŞAHİN GÖRGÜLÜ M.  
OPEN PHYSICS, vol.13, no.1, pp.400-406, 2015 (SCI-Expanded)

## Articles Published in Other Journals

- I. **An Efficient High Order Algorithm for Solving Regularized Long Wave Equation**  
IRK D., ZORŞAHİN GÖRGÜLÜ M.

- MOBILE, UBIQUITOUS, AND PERVASIVE LEARNING: FUNDAMENTS, APPLICATIONS, AND TRENDS, no.1111, pp.148-155, 2020 (Scopus)
- II. **A High-Order Accurate Numerical Algorithm for the Numerical Solution of Burgers' Equation**  
ZORŞAHİN GÖRGÜLÜ M.  
Muş Alparslan Üniversitesi Fen Bilimleri Dergisi, vol.7, no.2, pp.653-656, 2019 (Peer-Reviewed Journal)
- III. **Numerical solution of modified regularized long wave equation by using cubic trigonometric B-spline functions**  
ZORŞAHİN GÖRGÜLÜ M., İRK D.  
Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.21, no.1, pp.126-138, 2019 (Peer-Reviewed Journal)
- IV. **THE GALERKIN FINITE ELEMENT METHOD FOR ADVECTION DIFFUSION EQUATION**  
ZORŞAHİN GÖRGÜLÜ M., İRK D.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BİLİMLERİ DERGISI, vol.37, no.1, pp.119-128, 2019 (ESCI)
- V. **Higher Order Accurate Numerical Solution of Advection Diffusion Equation**  
ZORŞAHİN GÖRGÜLÜ M., İRK D.  
Konuralp Journal of Mathematics, vol.6, no.2, pp.253-258, 2018 (Peer-Reviewed Journal)
- VI. **Galerkin method for the numerical solution of the advection-diffusion equation by using exponential B-splines**  
ZORŞAHİN GÖRGÜLÜ M., DAĞ İ.  
International Journal of Mathematical Modelling Computations, vol.8, no.3, pp.2-3, 2018 (Peer-Reviewed Journal)
- VII. **A NUMERICAL SOLUTION OF THE ADVECTION-DIFFUSION EQUATION BY USING EXTENDED CUBIC B-SPLINE FUNCTIONS**  
ZORŞAHİN GÖRGÜLÜ M., DAĞ İ., DOĞAN S., İRK D.  
ANADOLU UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY A - Applied Sciences and Engineering, vol.19, no.2, pp.347-355, 2018 (Peer-Reviewed Journal)

## **Books & Book Chapters**

- I. **Diferensiyel Denklemler**  
İRK D., ZORŞAHİN GÖRGÜLÜ M.  
Eskişehir Osmangazi Üniversitesi Yayınları, 2019

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **A High Accuracy Numerical Solution of the Equal Width Wave Equation**  
ZORŞAHİN GÖRGÜLÜ M., İRK D.  
6th Int. IFS and Contemporary Mathematics Conference (IFSCOM2019), 7 - 10 June 2019
- II. **The numerical solution of second order linear hyperbolic telegraph equation**  
ZORŞAHİN GÖRGÜLÜ M., İRK D., KIRLI E.  
Recent Advances in Mathematical and Engineering Sciences (International Mathematics Engineering Conference RAIMS-LVIV), 24 - 26 July 2019
- III. **A high-order accurate numerical algorithm for the numerical solution of Burgers' equation**  
ZORŞAHİN GÖRGÜLÜ M.  
Recent Advances in Mathematical and Engineering Sciences (International Mathematics Engineering Conference RAIMS-LVIV), 24 - 26 July 2019
- IV. **AN EFFICIENT HIGH ORDER ALGORITHM FOR SOLVING REGULARIZED LONG WAVE EQUATION**  
İRK D., ZORŞAHİN GÖRGÜLÜ M.  
The Fourth International Conference on Computational Mathematics and Engineering Sciences (CMES-2019), 20 - 22 April 2019

- V. **A Numerical Method for Solution of Gilson-Pickering Equation**  
 ZORŞAHİN GÖRGÜLÜ M., IRK D.  
 INTERNATIONAL CONFERENCE ON MATHEMATICS“An Istanbul Meeting for World  
 Mathematicians”Minisymposium on Approximation Theory Minisymposium on Math Education, 3 - 06 July 2018
- VI. **High Order Single Step Methods for Advection-Diffusion Equation**  
 ZORŞAHİN GÖRGÜLÜ M., IRK D.  
 INTERNATIONAL CONFERENCE ON MATHEMATICS“An Istanbul Meeting for World  
 Mathematicians”Minisymposium on Approximation Theory Minisymposium on Math Education, 3 - 06 July 2018
- VII. **A High Accuracy Numerical Method for Solution of the RLW Equation**  
 ZORŞAHİN GÖRGÜLÜ M., IRK D.  
 INTERNATIONAL CONFERENCE on MATHEMATICAL ADVANCES and APPLICATIONS (ICOMAA2018), 11 - 13 May  
 2018
- VIII. **Numerical Solution of Modified Regularized Long Wave Equation by Using Cubic Trigonometric B-  
 spline Functions**  
 ZORŞAHİN GÖRGÜLÜ M., IRK D.  
 International Advanced Researches Engineering Congress-2017, 16 - 18 November 2017
- IX. **A Comparison of the Numerical Solutions for Advection-Diffusion Equation**  
 ZORŞAHİN GÖRGÜLÜ M., IRK D.  
 International Advanced Researches Engineering Congress-2017, 16 - 18 November 2017
- X. **A Numerical Solution of the Advection-Diffusion Equation by Using Extended Cubic B-Spline  
 Functions**  
 ZORŞAHİN GÖRGÜLÜ M., DAĞ İ.  
 International Conference on Mathematics and Mathematics Education(ICMME-2017), 11 - 13 May 2017
- XI. **A Numerical Solution of the Kuramoto-Sivashinsky Equation by Collocation Method using Quintic  
 Trigonometric B-spline**  
 SAKA B., ZORŞAHİN GÖRGÜLÜ M., DAĞ İ.  
 International Conference on Mathematics and Mathematics Education(ICMME-2017), 11 - 13 May 2017
- XII. **Exponential B splines Galerkin Method for the Numerical Solution of the Fisher s Equation**  
 ZORŞAHİN GÖRGÜLÜ M., DAĞ İ.  
 International Congress on Fundamental and Applied Sciences 2016 (ICFAS2016), 22 - 26 August 2016
- XIII. **The Galerkin finite element method for advection diffusion equation**  
 ZORŞAHİN GÖRGÜLÜ M., IRK D.  
 International Congress on Fundamental and Applied Sciences, İstanbul, Turkey, 22 - 26 August 2016
- XIV. **Wave propogation by way of exponential B spline Galerkin method**  
 ZORŞAHİN GÖRGÜLÜ M., DAĞ İ., IRK D.  
 International conference on quantum science and application(ICQSA-2016), 25 - 27 May 2016
- XV. **A Quartic Trigonometric B spline Collocation Method for Solving the Nonlinear Schrödinger  
 Equation**  
 SAKA B., ZORŞAHİN GÖRGÜLÜ M.  
 International Conference on Mathematics and Mathematics Education (ICMME-2016), Turkey, 12 - 14 May 2016
- XVI. **A Trigonometric B spline Finite Element Method for Equal Width Equation**  
 SAKA B., ZORŞAHİN GÖRGÜLÜ M.  
 International Conference on Mathematics and Mathematics Education (ICMME-2016), Turkey, 12 - 14 May 2016
- XVII. **Galerkin method for the numerical solution of the advection diffusion equation by using exponential  
 B splines**  
 ZORŞAHİN GÖRGÜLÜ M., DAĞ İ.  
 International Conference on Natural Science and Engineering (ICNASE'16), 19 - 20 March 2016
- XVIII. **Wave Propagation by Way of Exponential B-Spline Galerkin Method**  
 ZORŞAHİN GÖRGÜLÜ M., Dag İ., Irk D.  
 International Conference on Quantum Science and Applications (ICQSA), Eskişehir, Turkey, 25 - 27 May 2016,

- XIX. **Trigonometric quadratic B spline subdomain Galerkin algorithm for the Burgers equation**  
AY B., DAĞ İ., ZORŞAHİN GÖRGÜLÜ M.  
International Conference on Applied Analysis and Mathematical Modeling (ICAAMM 2015), 8 - 12 June 2015
- XX. **Galerkin method for the numerical solution of the rlw equation by using exponential B splines**  
ZORŞAHİN GÖRGÜLÜ M., DAĞ İ., IRK D.  
20th international conference on mathematical modelling and analysis, sigulda , latviya, SİGULDA, 26 - 29 May 2015
- XXI. **Numerical solutions of the Burgers equation using trigonometric B spline galerkin method**  
ZORŞAHİN GÖRGÜLÜ M., DAĞ İ., IRK D.  
20th International Conference on Mathematical Modelling and Analysis, Sigulda, Latvia, 26 - 29 May 2015
- XXII. **Numerical Solutions of the RLW Equation Using Trigonometric Quadratic B splines Subdomain Galerkin method**  
SAKA B., ZORŞAHİN GÖRGÜLÜ M.  
14. Matematik Sempozyumu, Turkey, 14 - 16 May 2015
- XXIII. **KdVB Denkleminin Kübik B Spline Galerkin Yöntemiyle Nümerik Çözümü**  
SAKA B., ZORŞAHİN GÖRGÜLÜ M.  
14. Matematik Sempozyumu, Turkey, 14 - 16 May 2015
- XXIV. **A Cubic B spline Algorithm for Numerical Solution of the KdVB equation**  
SAKA B., ZORŞAHİN GÖRGÜLÜ M.  
14. Matematik Sempozyumu, Turkey, 14 - 16 May 2015

## Supported Projects

Zorşahin Görgülü M., Irk D., Project Supported by Higher Education Institutions, Zamana Göre İkinci Mertebeden Bazı Kısmi Diferansiyel Denklemlerin Yüksek Doğruluklu Sayısal Çözümleri, 2018 - 2022  
Dağ İ., Irk D., TUBITAK Project, Üstel B Spline Sonlu Elemanlar Metodu ile Zamana Bağlı Diferansiyel Denklemlerin Yaklaşık Çözümlerinin Bulunması, 2014 - 2016

## Metrics

Publication: 40  
Citation (WoS): 45  
Citation (Scopus): 45  
H-Index (WoS): 4  
H-Index (Scopus): 4