

## **Prof. Gülçin Mihriye Muslu**

### **Personal Information**

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**Address:** İstanbul Teknik Üniversitesi Fen Edebiyat Fakültesi Matematik Bölümü Maslak İstanbul

### **International Researcher IDs**

ORCID: 0000-0003-2268-3992

Publons / Web Of Science ResearcherID: C-9054-2009

ScopusID: 6507593613

Yoksis Researcher ID: 152382

### **Education Information**

Doctorate, İstanbul Technical University, Fen Bilimleri Enstitüsü, Matematik Mühendisliği (Dr), Turkey 2000 - 2007

Postgraduate, İstanbul Technical University, Fen Bilimleri Enstitüsü, Matematik Mühendisliği (Yl) (Tezli), Turkey 1997 - 2000

Undergraduate, İstanbul Technical University, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey 1993 - 1997

### **Research Areas**

Basic Sciences, Mathematics, Differential Equations, Fourier Analysis, Numerical Analysis

### **Academic Titles / Tasks**

Professor, İstanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 2020 - Continues

Associate Professor, İstanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 2014 - 2020

Assistant Professor, İstanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 2007 - 2014

Research Assistant, İstanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 1998 - 2007

### **Academic and Administrative Experience**

Anabilim Dalı Akademik Kurul Üyesi, İstanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 2007 - Continues

Deputy Head of Department, İstanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 2018 - 2020

### **Courses**

Numerical Partial Differential Equations I, Postgraduate, 2020 - 2021

Mathematics II, Undergraduate, 2020 - 2021

Matematik I, Undergraduate, 2017 - 2018

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

- I. On the stability of solitary wave solutions for a generalized fractional Benjamin-Bona-Mahony equation  
Oruç G., Natali F., BORLUK H., Muslu G. M.  
NONLINEARITY, vol.35, no.3, pp.1152-1169, 2022 (SCI-Expanded)
- II. An exponential integrator sine pseudospectral method for the generalized improved Boussinesq equation  
Su C., Muslu G. M.  
BIT NUMERICAL MATHEMATICS, vol.61, no.4, pp.1397-1419, 2021 (SCI-Expanded)
- III. The generalized fractional Benjamin-Bona-Mahony equation: Analytical and numerical results  
Oruç G., Borluk H., Muslu G. M.  
PHYSICA D-NONLINEAR PHENOMENA, vol.409, 2020 (SCI-Expanded)
- IV. WKB analysis for the three coupled long wave-short wave interaction equations  
Muslu G. M., Lin C.  
APPLICABLE ANALYSIS, vol.99, no.9, pp.1507-1527, 2020 (SCI-Expanded)
- V. Existence and uniqueness of solutions to initial boundary value problem for the higher order Boussinesq equation  
Oruç G., Muslu G. M.  
Nonlinear Analysis: Real World Applications, vol.47, pp.436-445, 2019 (SCI-Expanded)
- VI. A numerical study of the semi-classical limit for three-coupled long wave-short wave interaction equations  
Oruç G., Kesici E., Muslu G. M.  
NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS, vol.35, no.3, pp.993-1007, 2019 (SCI-Expanded)
- VII. Numerical solution for a general class of nonlocal nonlinear wave equations arising in elasticity  
Muslu G. M., BORLUK H.  
ZAMM-ZEITSCHRIFT FUR ANGEWANDTE MATHEMATIK UND MECHANIK, vol.97, no.12, pp.1600-1610, 2017 (SCI-Expanded)
- VIII. Numerical study of blow-up to the purely elliptic generalized Davey-Stewartson system  
Muslu G. M.  
JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.317, pp.331-342, 2017 (SCI-Expanded)
- IX. Higher order dispersive effects in regularized Boussinesq equation  
Oruç G., BORLUK H., Muslu G. M.  
WAVE MOTION, vol.68, pp.272-282, 2017 (SCI-Expanded)
- X. A Fourier Pseudospectral Method for a Generalized Improved Boussinesq Equation  
Borluk H., Muslu G. M.  
NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS, vol.31, no.4, pp.995-1008, 2015 (SCI-Expanded)
- XI. The Cauchy problem for a one-dimensional nonlinear elastic peridynamic model  
Erbay H. A., Erkip A., Muslu G. M.  
JOURNAL OF DIFFERENTIAL EQUATIONS, vol.252, no.8, pp.4392-4409, 2012 (SCI-Expanded)
- XII. Numerical simulation of blow-up solutions for the generalized Davey-Stewartson system  
Muslu G. M., Erbay H. A.  
INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, vol.88, no.4, pp.805-815, 2011 (SCI-Expanded)
- XIII. Closing the gap in the purely elliptic generalized Davey-Stewartson system  
Eden A., Erbay H. A., Muslu G. M.  
NONLINEAR ANALYSIS-THEORY METHODS & APPLICATIONS, vol.69, no.8, pp.2575-2581, 2008 (SCI-Expanded)
- XIV. A numerical study of the long wave-short wave interaction equations  
Borluk H., Muslu G. M., ERBAY H. A.  
MATHEMATICS AND COMPUTERS IN SIMULATION, vol.74, pp.113-125, 2007 (SCI-Expanded)
- XV. Two remarks on a generalized Davey-Stewartson system

- Eden A., ERBAY H., Muslu G. M.  
NONLINEAR ANALYSIS-THEORY METHODS & APPLICATIONS, vol.64, no.5, pp.979-986, 2006 (SCI-Expanded)
- XVI. Higher-order split-step Fourier schemes for the generalized nonlinear Schrodinger equation  
Muslu G. M., ERBAY H.  
MATHEMATICS AND COMPUTERS IN SIMULATION, vol.67, no.6, pp.581-595, 2005 (SCI-Expanded)
- XVII. A split-step Fourier method for the complex modified Korteweg-de Vries equation  
Muslu G. M., ERBAY H.  
COMPUTERS & MATHEMATICS WITH APPLICATIONS, vol.45, pp.503-514, 2003 (SCI-Expanded)

## Supported Projects

Muslu G. M., Oruç G., Project Supported by Higher Education Institutions, Genelleştirilmiş kesirli Benjamin-Bona-Mahony denklemi hakkında analitik ve sayısal sonuçlar, 2019 - 2020

Muslu G. M., Oruç G., Project Supported by Higher Education Institutions, Uzun Dalga-Kısa Dalga Etkileşim Denklemlerinin Zayıf Dispersif Limitlerinin Sayısal İncelemesi, 2017 - 2018

Muslu G. M., Project Supported by Higher Education Institutions, Uzun dalga-kısa dalga etkileşim denklemlerinin zayıf dispersif limitleri, 2016 - 2018

Muslu G. M., Project Supported by Higher Education Institutions, Yüksek Mertebe Boussinesq Denklemi İçin Fourier Kollokasyon Yöntemi, 2014 - 2018

Muslu G. M., Project Supported by Higher Education Institutions, Boussinesq Tipi Dalga Denklemleri için Yeni Sayısal Sonuçlar, 2013 - 2018

Muslu G. M., Project Supported by Higher Education Institutions, An Implicit Finite Difference Scheme For Focusing Solutions of The Generalized Davey-Stewartson system, 2010 - 2018

Muslu G. M., Project Supported by Higher Education Institutions, Uzun Dalga-Kısa Dalga Etkileşim Denklemlerinin Zayıf Dispersif Limitlerinin Sayısal İncelemesi, 2016 - 2016

Muslu G. M., Project Supported by Higher Education Institutions, Yüksek Mertebe Boussinesq Denklemi için Sayısal ve Analitik Sonuçlar, 2014 - 2016

## Scientific Research / Working Group Memberships

Doğrusal Olmayan Kısmı Diferansiyel Denklemlerin Matematiksel ve Sayısal Analizi, İSTANBUL TEKNİK ÜNİVERSİTESİ, Turkey, <https://calismagruplari.itu.edu.tr/fen-edebiyat-fakultesi/>, 2013 - Continues

## Metrics

Publication: 33  
Citation (WoS): 193  
Citation (Scopus): 218  
H-Index (WoS): 7  
H-Index (Scopus): 7

## Awards

Muslu G. M., T. S. Papatheodorou Young Researcher Award, 6Th International Conference On Numerical Analysis, September 2014