

## Assoc. Prof. FATİH BULUT

### Personal Information

**Email:** fatih.bulut@inonu.edu.tr

**Web:** <https://avesis.inonu.edu.tr/fatih.bulut>

### International Researcher IDs

ScholarID: 6WU06DYAAAAJ

ORCID: 0000-0001-6603-2468

ScopusID: 57194322419

Yoksis Researcher ID: 44885

### Education Information

Doctorate, State University of New York at Buffalo, Faculty Of Arts And Sciences, Physics, United States Of America 2005 - 2008

Postgraduate, The University of Iowa, Faculty Of Arts And Sciences, Physics, United States Of America 2002 - 2005

Undergraduate, Ankara University, Fen Edebiyat Fakültesi, Fizik Bölümü, Turkey 1996 - 2000

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Three-Particle Model of the Pion Nucleon System, State University of New York at Buffalo, 2008

Postgraduate, Two Particle Scattering with Wavelets, The University of Iowa, 2005

### Research Areas

Physics, General Physics, Mathematical Methods in Physics, Basic Particles and Areas, General Theory of Particles and Fields, Natural Sciences

### Academic Titles / Tasks

Associate Professor, Inonu University, Fen-Edebiyat Fakültesi, Fizik, 2018 - Continues

Assistant Professor, Inonu University, Fen-Edebiyat Fakültesi, Fizik, 2009 - 2018

### Academic and Administrative Experience

Inonu University, 2016 - Continues

## Courses

KUANTUM MEKANİĞİ II, Undergraduate Minor, 2022-2023  
Kuantum Mekaniği, Undergraduate, 2022-2023  
GENEL FİZİK 2, Undergraduate, 2022-2023  
Quantum Mechanics, Undergraduate, 2022 - 2023, 2021 - 2022  
Genel Programlama II, Undergraduate, 2022-2023  
Genel Fizik I, Undergraduate, 2022-2023  
General Physics 2, Undergraduate, 2021 - 2022, 2016 - 2017  
General Physics I, Undergraduate, 2021 - 2022  
Elementary Particle Physics, Postgraduate, 2020 - 2021, 2018 - 2019  
KUANTUM MEKANİĞİ I, Undergraduate Double Major, 2021-2022  
Elektromagnetik Teori I, Undergraduate Double Major, 2020-2021  
Temel Parçacık Fiziği, Undergraduate Double Major, 2020-2021  
Electromagnetic Theory I, Postgraduate, 2019 - 2020  
Quantum Mechanics II, Doctorate, 2019 - 2020  
TEMEL PARÇACIK FİZİĞİ, Undergraduate Double Major, 2016-2017  
Genel Fizik I, Undergraduate Double Major, 2016-2017  
Temel Parçacık Fiziği, Undergraduate Double Major, 2016-2017  
GENEL FİZİK 2, Undergraduate, 2015-2016  
TEMEL PARÇACIK FİZİĞİ, Undergraduate Double Major, 2015-2016  
GENEL FİZİK 2, Undergraduate, 2014-2015  
GENEL FİZİK I, Undergraduate, 2014-2015  
ELEKTROMANYETİK TEORİ 2, Undergraduate Minor, 2014-2015  
TEMEL PARÇACIK FİZİĞİ, Undergraduate Double Major, 2013-2014  
GENEL FİZİK I, Undergraduate, 2013-2014  
GENEL FİZİK 2, Undergraduate, 2013-2014  
KUANTUM MEKANİĞİ II, Undergraduate Minor, 2013-2014  
YÜKSEK ENERJİ FİZİĞİ, Undergraduate Double Major, 2013-2014  
KUANTUM MEKANİĞİ II, Undergraduate Minor, 2012-2013  
GENEL FİZİK 2, Undergraduate, 2012-2013  
GENEL FİZİK I, Undergraduate, 2012-2013  
GENEL PROĞRAMLAMA I, Undergraduate, 2012-2013  
GENEL PROĞRAMLAMA 2, Undergraduate, 2012-2013  
GENEL FİZİK I, Undergraduate, 2012-2013  
ELEKTROMANYETİK TEORİ 2, Undergraduate Minor, 2012-2013  
GENEL FİZİK I, Undergraduate, 2011-2012  
ELEKTROMANYETİK TEORİ 2, Undergraduate Minor, 2011-2012  
KUANTUM MEKANİĞİ I, Undergraduate Double Major, 2011-2012  
GENEL PROĞRAMLAMA 2, Undergraduate, 2011-2012  
GENEL FİZİK 2, Undergraduate, 2011-2012  
GENEL PROĞRAMLAMA I, Undergraduate, 2011-2012  
BİYOLOJİ İÇİN FİZİK, Undergraduate, 2011-2012  
YÜKSEK ENERJİ FİZİĞİ, Undergraduate Double Major, 2011-2012

## Advising Theses

Bulut F., Yüksek enerji fiziğinde kullanılan simülasyon teknikleri, Postgraduate, M.AYYILDIZ(Student), 2016  
ESEN A., BULUT F., Lineer olmayan kısmi türevli denklemlerin haar dalgacıkları ile nümerik çözümleri, Doctorate, Ö.ORUÇ(Student), 2016

Bulut F., D mezon bozunumunda CP bozulumu, Postgraduate, F.ALTIN(Student), 2014

Bulut F., Investigation of hadronic decays by Dalitz plot analysis, Postgraduate, M.BULDU(Student), 2013

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

- I. **Optimization of Electrochemical Pre-Sodiation parameters of Na-ion full cells for stable SEI formation: Hard carbon rods from waste firefighter suits**  
Yalman E., Altundag S., Aydın M. G., Onal Y., Depci T., Tekbas H., Bulut F., Yaşar S., Altın S.  
ENERGY TECHNOLOGY, vol.0, no.0, pp.2300014, 2023 (SCI-Expanded)
- II. **Metal-Organic Framework Materials for Electrochemical Supercapacitors**  
Cao Z., Momen R., Tao S., Xiong D., Song Z., Xiao X., Deng W., Hou H., YAŞAR S., Altın S., et al.  
NANO-MICRO LETTERS, vol.14, no.1, 2022 (SCI-Expanded)
- III. **Pd-NHC complex catalyzed C-H bond activation reactions of caffeine and 2-isobuthylthiazole**  
Bugday N., Khan S., YAŞAR S., BULUT F., Boulebd H., KARABIYIK H., KARABIYIK H., ÖZ E., Rehman A. U., ÖZDEMİR İ.  
MOLECULAR CATALYSIS, vol.530, 2022 (SCI-Expanded)
- IV. **Higher order Haar wavelet method integrated with strang splitting for solving regularized long wave equation**  
BULUT F., Oruc O., ESEN A.  
MATHEMATICS AND COMPUTERS IN SIMULATION, vol.197, pp.277-290, 2022 (SCI-Expanded)
- V. **Boron-doped porous carbon material derived from ZIF-11: Investigation of cotton fabric supercapacitor and Li-ion battery performances**  
Bugday N., ALTIN S., BULUT F., ALTIN E., YAŞAR S.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.46, no.6, pp.7732-7748, 2022 (SCI-Expanded)
- VI. **Highly accurate numerical scheme based on polynomial scaling functions for equal width equation**  
Oruc O., ESEN A., BULUT F.  
WAVE MOTION, vol.105, 2021 (SCI-Expanded)
- VII. **Numerical investigation of dynamic Euler-Bernoulli equation via 3-Scale Haar wavelet collocation method**  
Oruc O., ESEN A., BULUT F.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.50, no.1, pp.159-179, 2021 (SCI-Expanded)
- VIII. **A Strang Splitting Approach Combined with Chebyshev Wavelets to Solve the Regularized Long-Wave Equation Numerically**  
Oruc O., ESEN A., BULUT F.  
MEDITERRANEAN JOURNAL OF MATHEMATICS, vol.17, no.5, 2020 (SCI-Expanded)
- IX. **The production of a low cost printing device for energy storage systems and the application for supercapacitors**  
Altın S., Bulut F., Yasar S.  
JOURNAL OF ENERGY STORAGE, vol.25, 2019 (SCI-Expanded)
- X. **A UNIFIED FINITE DIFFERENCE CHEBYSHEV WAVELET METHOD FOR NUMERICALLY SOLVING TIME FRACTIONAL BURGERS' EQUATION**  
Oruc O., ESEN A., BULUT F.  
DISCRETE AND CONTINUOUS DYNAMICAL SYSTEMS-SERIES S, vol.12, no.3, pp.533-542, 2019 (SCI-Expanded)
- XI. **A haar wavelet approximation for two-dimensional time fractional reaction-subdiffusion equation**  
Oruc O., ESEN A., BULUT F.  
ENGINEERING WITH COMPUTERS, vol.35, no.1, pp.75-86, 2019 (SCI-Expanded)
- XII. **Chebyshev Wavelet Method for Numerical Solutions of Coupled Burgers' Equation**  
Oruc O., Bulut F., Esen A.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.48, no.1, pp.1-16, 2019 (SCI-Expanded)
- XIII. **Multi-scale Methods in Quantum Field Theory**  
Polyzou W. N., Michlin T., BULUT F.

- FEW-BODY SYSTEMS, vol.59, no.3, 2018 (SCI-Expanded)
- XIV. **Multiresolution decomposition of quantum field theories using wavelet bases**  
Michlin T, Polyzou W. N., BULUT F.  
PHYSICAL REVIEW D, vol.95, no.9, 2017 (SCI-Expanded)
- XV. **Numerical solution of the KdV equation by Haar wavelet method**  
ORUC O., bulut F., ESEN A.  
PRAMANA-JOURNAL OF PHYSICS, vol.87, no.6, 2016 (SCI-Expanded)
- XVI. **Numerical Solutions of Regularized Long Wave Equation By Haar Wavelet Method**  
ORUC O., BULUT F., ESEN A.  
MEDITERRANEAN JOURNAL OF MATHEMATICS, vol.13, no.5, pp.3235-3253, 2016 (SCI-Expanded)
- XVII. **A Haar wavelet collocation method for coupled nonlinear Schrodinger-KdV equations**  
ORUC O., ESEN A., BULUT F.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS C, vol.27, no.9, 2016 (SCI-Expanded)
- XVIII. **A unified approach for the numerical solution of time fractional Burgers' type equations**  
ESEN A., BULUT F., ORUC O.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.131, no.4, 2016 (SCI-Expanded)
- XIX. **Altered isotope charge distribution of acetylcholine neurotransmitter and Myasthenia Gravis**  
BAYRİ A., ÜNAL S., ALTIN S., BULUT F., DAYANC B. E.  
MEDICAL HYPOTHESES, vol.89, pp.84-88, 2016 (SCI-Expanded)
- XX. **An alternative approach to compute wavelet connection coefficients**  
BULUT F.  
APPLIED MATHEMATICS LETTERS, vol.53, pp.1-9, 2016 (SCI-Expanded)
- XXI. **Numerical Solutions of Fractional System of Partial Differential Equations By Haar Wavelets**  
BULUT F., ORUC Ö., ESEN A.  
CMES-COMPUTER MODELING IN ENGINEERING & SCIENCES, vol.108, no.4, pp.263-284, 2015 (SCI-Expanded)
- XXII. **A Haar wavelet-finite difference hybrid method for the numerical solution of the modified Burgers' equation**  
ORUC Ö., BULUT F., ESEN A.  
JOURNAL OF MATHEMATICAL CHEMISTRY, vol.53, no.7, pp.1592-1607, 2015 (SCI-Expanded)
- XXIII. **Wavelet Methods in Field Theory Wavelets in Field Theory**  
Polyzou W., BULUT F.  
FEW-BODY SYSTEMS, vol.55, pp.561-566, 2014 (SCI-Expanded)
- XXIV. **Wavelets in field theory**  
BULUT F., Polyzou W. N.  
PHYSICAL REVIEW D, vol.87, no.11, 2013 (SCI-Expanded)
- XXV. **Three-particle model of the pion-nucleon system**  
Fuda M. G., BULUT F.  
PHYSICAL REVIEW C, vol.80, no.2, 2009 (SCI-Expanded)
- XXVI. **Wavelet methods in the relativistic three-body problem**  
Bulut F., Polyzou W.  
PHYSICAL REVIEW C, vol.73, no.2, 2006 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Lityum İyon Bataryaları İçin Güvenlik Riskleri ve Çözüm Önerileri**  
Bulut F., Altın S., Buldu M.  
Sürdürülebilir Mühendislik Uygulamaları ve Teknolojik Gelişmeler Dergisi, vol.7, no.2, pp.131-142, 2024 (Peer-Reviewed Journal)
- II. **Low-Cost 3D-Printing Device Production for Miniature Energy Storage 2 Systems**  
ALTIN S., BULUT F.

Chemistry Research Journal, vol.4, no.4, pp.1-4, 2019 (Peer-Reviewed Journal)

**III. A numerical treatment based on Haar wavelets for coupled KdV equation**

Oruç Ö., Bulut F., Esen A.

An International Journal of Optimization and Control: Theories Applications (IJOCTA), vol.7, no.2, pp.195, 2017  
(Peer-Reviewed Journal)

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

**I. A 3-SCALE HAAR WAVELET COLLOCATIONMETHOD FOR SOLVING PDEs**

BULUT F., Oruç Ö., ESEN A.

2nd International conference on computational mathematics and engineering sciences, İstanbul, Turkey, 20 - 22 May 2017

**II. CHEBYSHEV WAVELET METHOD FOR NUMERICAL SOLUTIONS OF PDEs**

ESEN A., Oruç Ö., BULUT F.

2nd International conference on computational mathematics and engineering sciences, İstanbul, Turkey, 20 - 22 May 2017

**III. A numerical scheme based on Haar wavelets for coupled nonlinear Schrodinger equations**

Oruç Ö., ESEN A., BULUT F.

9th International Physics Conference of the Balkan Physical Union, 24 - 27 August 2015

**IV. Numerical solutions of Huxley equation by Haar Wavelet Method**

BULUT F., ESEN A., Oruç Ö.

Boundary Value Problems Workshop, 12 - 13 March 2014

**V. Dalitz Grafiği Analizi İle Hadronik Bozunumların İncelenmesi**

BULUT F., BULDU M.

UPHUK V, 7 - 09 September 2013

**VI. Dalitz Plot Analizi**

BULUT F.

B-Kuarklı ve C-Kuarklı Mezonlar Çalıştayı 2012, Turkey, 16 - 18 March 2012

**VII. Dalitz Plot**

BULUT F.

X. YUUP ÇALIŞTAYI, Turkey, 9 - 11 December 2011

**VIII. Three particle model of the pion nucleon system**

BULUT F., MICHAEL G F.

UPHUK 4, 30 August - 01 September 2010

**IX. Cp Bozulması**

BULUT F.

IX. YUUP ÇALIŞTAYI, Turkey, 3 - 05 May 2010

## **Supported Projects**

ALTIN S., ALTUNDAĞ S., BULUT F., Project Supported by Higher Education Institutions, NaMn2O4 katot üretimi ve batarya performansların araştırılması, 2022 - 2023

ESEN A., BULUT F., ORUÇ Ö., Project Supported by Higher Education Institutions, Lineer olmayan kısmi diferansiyel denklemlerin Haar dalgacıkları ve Yüksek mertebeli Haar dalgacıkları yöntemleri ile çözümleri, 2021 - 2022

BULUT F., ALTIN S., YAŞAR S., ÖREN İ. C., Project Supported by Higher Education Institutions, Portable çok amaçlı non-manyetik mekanik karıştırıcı ürün geliştirme, 2018 - 2019

BAYRİ A., BULUT F., ALTIN S., ALTIN E., ADIGÜZEL H. İ., Project Supported by Higher Education Institutions, Na-iyon piller için demir-krom içeren elektrot geliştirilmesi, 2018 - 2019

ALTIN S., ÖNAL Y., DEMİREL S., BAYRİ A., YAŞAR S., ALTIN E., BULUT F., Project Supported by Higher Education

## **Metrics**

Publication: 38

Citation (WoS): 298

Citation (Scopus): 114

H-Index (WoS): 10

H-Index (Scopus): 7