

## Assoc. Prof. MAHMUT BAĞCI

### Personal Information

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### International Researcher IDs

ScholarID: pMobcfwAAAAJ

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Publons / Web Of Science ResearcherID: A-3184-2016

ScopusID: 56247392700

Yoksis Researcher ID: 23348

### Education Information

Post Doctorate, University of Washington, Department of Applied Mathematics, Applied Mathematics, United States Of America 2017 - 2018

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Department of Mathematics Engineering, Turkey 2010 - 2016

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Department of Mathematics Engineering, Turkey 2007 - 2010

Undergraduate, Istanbul Technical University, Fen-Edebiyat, Fizik Mühendisliği, Turkey 2003 - 2007

### Dissertations

Doctorate, Fundamental lattice solitons in Davey Stewartson systems, Istanbul Technical University, Fen Bilimleri Enstitüsü, Department of Mathematics Engineering, 2016

Postgraduate, Fundamental solitons in complex two dimensional lattices, Istanbul Technical University, Fen Bilimleri Enstitüsü, Department of Mathematics Engineering, 2010

### Research Areas

Financial Economics, Numerical Algorithms, Artificial Intelligence, Computer Learning and Pattern Recognition, Numerical Analysis, Lattice Dynamics

### Academic Titles / Tasks

Associate Professor, Marmara University, Faculty of Business Administration, Management Information Systems, 2022 - Continues

Assistant Professor, Marmara University, Faculty of Business Administration, Yönetim Bilişim Sistemleri Bölümü, 2021 - 2022

Assistant Professor, Yeditepe University, Academy Of Applied Sciences, 2020 - 2022

Assistant Professor, Beykoz University, Faculty Of Engineering-Architecture, Department Of Computer Engineering, 2019 - 2020

Assistant Professor, Istanbul Bilgi University, Vocational School, Department Of Computer Technologies, 2016 - 2020

Lecturer, Istanbul Kavram Vocational College Of Higher Education, İstanbul Kavram Vocational School, Department Of Computer Technologies, 2010 - 2016

## Academic and Administrative Experience

Deputy Head of Department, Marmara University, Faculty Of Business Administration, Management Information Systems, 2024 - Continues

Deputy Head of Department, Marmara University, Faculty Of Business Administration, Management Information Systems, 2022 - 2024

Head of Department, Istanbul Bilgi University, Vocational School, Department Of Computer Technologies, 2017 - 2020

Head of Department, Istanbul Kavram Vocational College Of Higher Education, İstanbul Kavram Vocational School, Department Of Computer Technologies, 2011 - 2016

## Courses

Business Data Communications, Undergraduate, 2023 - 2024

Artificial Intelligence, Undergraduate, 2023 - 2024

Introduction to Information Systems and Technology, Undergraduate, 2023 - 2024

Machine Learning Applications, Undergraduate, 2023 - 2024

Computer Hardware and System Software, Undergraduate, 2023 - 2024

Computational Finance and Algorithmic Trading, Undergraduate, 2023 - 2024

## Jury Memberships

Post Graduate, Post Graduate, İstanbul Teknik Üniversitesi, December, 2022

Post Graduate, Post Graduate, İstanbul Teknik Üniversitesi, February, 2022

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

- I. **Optimal portfolio selection with volatility information for a high frequency rebalancing algorithm**  
BAĞCI M., KAYA SOYLU P.  
Financial Innovation, vol.10, no.1, 2024 (SSCI)
- II. **Machine learning for self-tuning mode-locked lasers with multiple transmission filters**  
Bağcı M., Kutz J. N.  
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B: OPTICAL PHYSICS, vol.41, no.1, pp.79-89, 2024 (SCI-Expanded)
- III. **The Symmetric and Asymmetric Algorithmic Trading Strategies for the Stablecoins**  
BAĞCI M., KAYA SOYLU P., KIRAN S.  
Computational Economics, 2024 (SCI-Expanded)
- IV. **Mode-locking in quadratically nonlinear waveguide arrays**  
Bağcı M., Kutz J. N.  
OPTICS EXPRESS, vol.30, no.16, pp.28454-28469, 2022 (SCI-Expanded)
- V. **Impact of the lattice period on the stability dynamics of defect solitons in periodic lattices**  
Bağcı M.  
Physical Review A, vol.105, no.4, 2022 (SCI-Expanded)
- VI. **Soliton dynamics in quadratic nonlinear media with two-dimensional Pythagorean aperiodic lattices**  
Bağcı M.  
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS, vol.38, no.4, pp.1276-1282, 2021 (SCI-

- Expanded)
- VII. **Partially PT-symmetric lattice solitons in quadratic nonlinear media**  
Bagci M.  
PHYSICAL REVIEW A, vol.103, no.2, 2021 (SCI-Expanded)
- VIII. **Spatiotemporal mode locking in quadratic nonlinear media**  
Bagci M., Kutz J. N.  
PHYSICAL REVIEW E, vol.102, no.2, 2020 (SCI-Expanded)
- IX. **Lattice solitons in nonlinear Schrodinger equation with coupling-to-a-mean-term**  
Bagci M., Bakırtaş Akar İ., Antar N.  
OPTICS COMMUNICATIONS, vol.383, pp.330-340, 2017 (SCI-Expanded)
- X. **Fundamental solitons in parity-time symmetric lattice with a vacancy defect**  
Bagci M., Bakırtaş Akar İ., Antar N.  
OPTICS COMMUNICATIONS, vol.356, pp.472-481, 2015 (SCI-Expanded)
- XI. **Vortex and dipole solitons in lattices possessing defects and dislocations**  
Bagci M., Bakırtaş Akar İ., Antar N.  
OPTICS COMMUNICATIONS, vol.331, pp.204-218, 2014 (SCI-Expanded)

## Articles Published in Other Journals

- I. **NFT (NON-FUNGIBLE TOKEN) VE UYGULAMA ALANLARI**  
Ustaoglu E., Kiran S., Bağcı M., Emre İ. E.  
Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, vol.24, no.4, pp.1801-1821, 2022 (Peer-Reviewed Journal)
- II. **Effects of Lattice Frequency on Vacancy Defect Solitons in a Medium with Quadratic Nonlinear Response**  
BAĞCI M.  
Bitlis Eren Üniversitesi Fen Bilimleri Dergisi, vol.11, no.1, pp.344-351, 2022 (Peer-Reviewed Journal)
- III. **Vortex Solitons on Partially PT-symmetric Azimuthal Lattices in a Medium with Quadratic Nonlinear Response**  
BAĞCI M.  
Journal of mathematical sciences and modelling (Online), vol.4, no.3, pp.117-125, 2021 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Dipole Solitons in a Nonlocal Nonlinear Medium with Self-Focusing and Self-Defocusing Quintic Nonlinear Responses**  
Bağcı M., Turgut M., Antar N., Bakırtaş Akar İ.  
in: Vortex Dynamics - From Physical to Mathematical Aspects, İlkey Bakırtaş, Nalan Antar, Editor, IntechOpen, London, pp.818-92, 2022
- II. **Lattice Solitons in a Nonlocal Nonlinear Medium with Self-Focusing and Self-Defocusing Quintic Nonlinearity**  
Bağcı M., Horikis T. P., Bakırtaş Akar İ., Antar N.  
in: The Nonlinear Schrödinger Equation, Nalan Antar, İlkey Bakırtaş, Editor, IntechOpen, London, pp.1048-24, 2022
- III. **CRYSTAL AND QUASICRYSTAL LATTICE SOLITONS IN NLSM EQUATION**  
Bakırtaş Akar İ., Bağcı M.  
in: ADVANCES IN OPTICS VOL.2, SERGEY YURISH, Editor, International Frequency Sensor Association (IFSA) Publishing, Madrid, pp.283-310, 2018

## Refereed Congress / Symposium Publications in Proceedings

- I. **İkinci, Üçüncü ve Beşinci Derece Optik Etkileri İçeren Ortamda Dipol Solitonlar**  
Bağcı M., Turgut M., Antar N., Bakırtaş Akar İ.  
23. Ulusal Mekanik Kongresi, Konya, Turkey, 4 - 07 September 2023, pp.1-10
- II. **Security Analysis of Image Encryption Algorithms**  
KÜÇÜKBACAK R., BAĞCI M.  
MAS 16th International European Conference On Mathematics, Engineering, Natural & Medical Sciences, Mardin, Turkey, 22 - 23 February 2022, pp.488
- III. **Multiple Solitons in a Square Optical Lattice with a Negative Line Defect**  
BAĞCI M.  
(Online) International Symposium on Applied Mathematics and Engineering (ISAME2022), İstanbul, Turkey, 21 - 23 January 2022, pp.86
- IV. **Lattice solitons in a media with quadratic-cubic-quintic nonlinear response**  
BAĞCI M.  
5th International Conference of Mathematical Sciences (ICMS 2021), İstanbul, Turkey, 23 - 27 June 2021, pp.114
- V. **A data-driven machine learning algorithm for financial market prediction**  
BAĞCI M.  
9th (Online) International Conference on Applied Analysis and Mathematical Modeling (ICAAMM 2021), İstanbul, Turkey, 11 - 13 June 2021, vol.9, pp.38-43
- VI. **İki Boyutlu Kuadratik Ortamda Kip Kilitlenmesi**  
BAĞCI M., ANTAR N., BAKIRTAŞ AKAR İ.  
21. Ulusal Mekanik Kongresi, Niğde, Turkey, 2 - 06 September 2019, pp.869-876
- VII. **NLS ve NLSM Yönetici Denklemlerinin Soliton Çözümlerinin Karşılaştırılması**  
BAĞCI M., ANTAR N.  
20. Ulusal Mekanik Kongresi, Bursa, Turkey, 5 - 09 September 2017, pp.890-897
- VIII. **Kuadratik Ortamda Parite Zaman (PT) Simetrik Kafes Solitonları**  
BAĞCI M., BAKIRTAŞ AKAR İ.  
19. Ulusal Mekanik Kongresi, Trabzon, Turkey, 24 - 28 August 2015, pp.169-176
- IX. **Düzensiz Kafes (Latis) İçinde NLSM Solitonları**  
BAĞCI M., BAKIRTAŞ AKAR İ., ANTAR N.  
19. Ulusal Mekanik Kongresi, Trabzon, Turkey, 24 - 28 August 2015, pp.177-184
- X. **Quasicrystal Lattice Solitons in NLSM Systems**  
BAĞCI M., BAKIRTAŞ AKAR İ., ANTAR N.  
The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, United States Of America, 1 - 05 July 2015, pp.399
- XI. **Optical solitons of NLSM Systems in PT-Symmetric lattice with a vacancy defect**  
BAĞCI M., BAKIRTAŞ AKAR İ., ANTAR N.  
Nonlinear Evolution Equations and Dynamical Systems (NEEDS 2015), Sardinia, Italy, 24 - 31 May 2015
- XII. **Fundamental and dipole solitons on PT-Symmetric lattice with a vacancy defect**  
BAĞCI M., BAKIRTAŞ AKAR İ., ANTAR N.  
International Conference on Advances in Applied Mathematics and Mathematical Physics, Yıldız Technical University of Istanbul, Turkey, İstanbul, Turkey, 19 - 21 August 2014
- XIII. **Düzensiz Kafes (Latis) İçinde Temel, Dipol ve Vorteks Solitonlar**  
BAĞCI M., BAKIRTAŞ AKAR İ., ANTAR N.  
18. Ulusal Mekanik Kongresi, Manisa, Turkey, 26 - 30 August 2013, pp.51-62
- XIV. **Vortex and Dipole Solitons in Defect Lattices**  
BAĞCI M., BAKIRTAŞ AKAR İ., ANTAR N.  
The Third International Conference: Nonlinear Waves--Theory and Applications, Pekin, China, 12 - 15 June 2013, pp.181-182
- XV. **Fundamental Solitons in Quasicrystal Lattices**

BAĞCI M., BAKIRTAŞ AKAR İ., ANTAR N.

Nonlinear Evolution Equations and Dynamical Systems (NEEDS 2012), Kolymbari, Greece, 8 - 15 July 2012

XVI. **İki Boyutlu Kompleks Kafes İçinde Temel Solitonlar**

BAĞCI M., BAKIRTAŞ AKAR İ., ANTAR N.

17. Ulusal Mekanik Kongresi, Elazığ, Turkey, 5 - 09 September 2011, vol.1, pp.133-142

## Scientific Refereeing

COMPUTATIONAL ECONOMICS, Journal Indexed in SSCI, September 2024

Journal of research in business (online), National Scientific Refreed Journal, April 2024

Financial Innovation, National Scientific Refreed Journal, April 2024

Financial Innovation, Journal Indexed in SSCI, January 2024

COMPUTATIONAL ECONOMICS, Journal Indexed in SSCI, December 2023

COMPUTATIONAL ECONOMICS, Journal Indexed in SSCI, November 2023

Financial Innovation, Journal Indexed in SSCI, October 2023

OPTICS EXPRESS, Journal Indexed in SCI-E, July 2023

OPTICS EXPRESS, Journal Indexed in SCI-E, June 2023

Financial Innovation, Journal Indexed in SSCI, April 2023

Mühendislik bilimleri ve araştırmaları dergisi (Online), National Scientific Refreed Journal, March 2023

OPTICS LETTERS, Journal Indexed in SCI-E, March 2023

OPTICS EXPRESS, Journal Indexed in SCI-E, September 2022

OPTICS LETTERS, Journal Indexed in SCI-E, August 2022

OPTICS EXPRESS, Journal Indexed in SCI-E, April 2022

## Metrics

Publication: 33

Citation (WoS): 39

Citation (Scopus): 47

H-Index (WoS): 5

H-Index (Scopus): 5

## Scholarships

2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, TÜBİTAK, 2017 - 2018