

# ABDURRAHİM TOKTAŞ

## PROF.

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### International Researcher IDs

ScholarID: Y\_Bsi-IAAAAJ

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Publons / Web Of Science ResearcherID: D-7354-2015

ScopusID: 36705310900

Yoksis Researcher ID: 221492



## Biography

Abdurrahim Toktaş completed his undergraduate education at Gaziantep University, Department of Electrical and Electronics Engineering in 2002. He completed his master's and doctoral studies at Mersin University, Department of Electrical and Electronics Engineering, in 2010 and 2014, respectively. He worked at Türk Telekom between 2003-2010 and at Mersin University Information Technology Department between 2010-2015. After completing his doctorate education, he served as the founding department head and faculty member at Karamanoğlu Mehmetbey University, Department of Electrical and Electronics Engineering between 2015-2022. Toktaş has been serving as the head of the department with the title of professor in Ankara University Artificial Intelligence and Data Engineering department since 2022. Main study topics include artificial intelligence, machine learning, optimization, chaotic systems, image processing, image access, image encryption and electromagnetic and antenna applications of artificial intelligence. So far, he has supervised 6 postgraduate theses and has 8 patents, 11 projects, 6 books and book chapters, 66 SCI articles, 14 international articles and 42 papers.

## Learning Knowledge

Doctorate 2010 - 2014	Mersin University, Institute Of Science, Electrical and Electronics Engineering, Turkey
Postgraduate 2007 - 2010	Mersin University, Institute Of Science, Electrical and Electronics Engineering, Turkey
Undergraduate 1997 - 2002	Gaziantep University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering (English), Turkey

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, LTE, WiMAX ve WLAN iletişim sistemleri için MIMO anten tasarımları ve prototiplerinin gerçekleştirilmesi, Mersin University, Institute Of Science, Elektrik-Elektronik Mühendisliği, 2014  
Postgraduate, Farksal gelişim algoritması kullanarak h şekilli mikroşerit antenlerin rezonans frekansının hesaplanması, Mersin University, Institute Of Science, Elektrik-Elektronik Mühendisliği, 2009

## Academic Titles / Tasks

Professor 2023 - Continues	Ankara University, Mühendislik Fakültesi, Yapay Zeka ve Veri Mühendisliği Bölümü
Associate Professor 2022 - 2023	Ankara University, Mühendislik Fakültesi, Yapay Zeka ve Veri Mühendisliği Bölümü
Associate Professor 2018 - 2022	Karamanoglu Mehmetbey University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering
Assistant Professor 2015 - 2018	Karamanoglu Mehmetbey University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering

## Supported Projects

1. Toktaş A., Yıldız S. A., Üstün D., Akınay Y., TUBITAK Project, Multilayer Electromagnetic Interference Shielding (MEIS) Fiber Reinforced Hybrid Composite Panel, 2022 - 2024
2. Toktaş A., Üstün D., Project Supported by Higher Education Institutions, Designin of multilayer radar absorbing material using multi-objective optimization algorithms and material measurements, 2020 - 2021
3. Toktaş A., Project Supported by Higher Education Institutions, New generation milimeter wave microstrip antenna designing and prototyping, 2018 - 2021
4. Toktaş A., Project Supported by Higher Education Institutions, Reconfigurable microstrip multiple input multiple output - MIMO antenna designing, prototyping and measuring, 2018 - 2020
5. Toktaş A., Kayabaşı A., Sabancı K., Project Supported by Higher Education Institutions, Ultra-wideband patch antenna designing, prototyping and measuring, 2017 - 2019
6. Toktaş A., Yiğit E., Sabancı K., Project Supported by Higher Education Institutions, Model Silo Üzerinde Ölçeklendirme Yöntemi İle Radar Seviye Ölçüm Sistemi Geliştirilmesi, 2017 - 2018
7. Toktaş A., Sabancı K., Kayabaşı A., Project Supported by Higher Education Institutions, Embedded system controlled weather station design and meteorological data analysis with artificial intelligence techniques, 2017 - 2018
8. Toktaş A., Project Supported by Higher Education Institutions, Reconfigurable microstrip antenna designing, and prototyping, 2015 - 2016
9. Toktaş A., Işiker H., Yiğit E., TUBITAK Project, Hastane dışında anne karnındaki bebeğin kalp atış seyrini ölçen ve kablosuz olarak ileten NST cihaz tasarımı, 2014 - 2015
10. Toktaş A., Işiker H., Yiğit E., TUBITAK Project, Tahıl silolarında radar yardımı ile üç boyutlu seviye ölçümü, 2014 - 2015
11. Toktaş A., Akdağlı A., Project Supported by Higher Education Institutions, Designing and fabricating of MIMO antenna for LTE communication systems, 2014 - 2015

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

1. **Complex dynamics of a new multiscroll memristive neural network**  
Chen Y., Lai Q., Zhang Y., Erkan U., TOKTAŞ A.  
Nonlinear Dynamics, vol.112, no.10, pp.8603-8616, 2024 (SCI-Expanded)
2. **2D hyperchaotic Styblinski-Tang map for image encryption and its hardware implementation**  
Ustun D., Erkan U., TOKTAŞ A., Lai Q., Yang L.  
Multimedia Tools and Applications, vol.83, no.12, pp.34759-34772, 2024 (SCI-Expanded)
3. **Securing Dual-Channel Audio Communication With a 2-D Infinite Collapse and Logistic Map**  
Wu R., Gao S., Iu H. H., Zhou S., Erkan U., TOKTAŞ A., Tang X.  
IEEE Internet of Things Journal, vol.11, no.6, pp.10214-10223, 2024 (SCI-Expanded)
4. **PSO-based image encryption scheme using modular integrated logistic exponential map**  
Kocak O., ERKAN U., TOKTAŞ A., Gao S.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.237, 2024 (SCI-Expanded)
5. **Index-based simultaneous permutation-diffusion in image encryption using two-dimensional price map**  
Lai Q., Zhang H., Ustun D., Erkan U., TOKTAŞ A.  
Multimedia Tools and Applications, vol.83, no.10, pp.28827-28847, 2024 (SCI-Expanded)
6. **A robust bit-level image encryption based on Bessel map**  
TOKTAŞ A., Erkan U., Gao S., Pak C.  
APPLIED MATHEMATICS AND COMPUTATION, vol.462, 2024 (SCI-Expanded)
7. **MLMQ-IR: Multi-label multi-query image retrieval based on the variance of Hamming distance**  
Akbaçak E., TOKTAŞ A., Erkan U., Gao S.  
Knowledge-Based Systems, vol.283, 2024 (SCI-Expanded)
8. **MSLID-TCN: multi-stage linear-index dilated temporal convolutional network for temporal action segmentation**  
Gao S., Wu R., Liu S., Erkan U., TOKTAŞ A., Liu J., Tang X.  
International Journal of Machine Learning and Cybernetics, 2024 (SCI-Expanded)
9. **Multiobjective Design of 2D Hyperchaotic System Using Leader Pareto Grey Wolf Optimizer**  
TOKTAŞ A., ERKAN U., Ustun D., Lai Q.  
IEEE TRANSACTIONS ON SYSTEMS MAN CYBERNETICS-SYSTEMS, vol.54, no.9, pp.5237-5247, 2024 (SCI-Expanded)
10. **OSMRD-IE: Octal-Based Shuffling and Multi-Layer Rotational Diffusing Image Encryption Using 2D Hybrid Michalewicz-Ackley Map**  
Erkan U., TOKTAŞ A., Memis S., Toktas F., Lai Q., Wen H., Gao S.  
IEEE Internet of Things Journal, 2024 (SCI-Expanded)
11. **Design, Dynamical Analysis, and Hardware Implementation of a Novel Memcapacitive Hyperchaotic Logistic Map**  
Gao S., Iu H. H., Erkan U., Simsek C., Mou J., TOKTAŞ A., Wu R., Tang X.  
IEEE Internet of Things Journal, 2024 (SCI-Expanded)
12. **An image encryption method based on multi-space confusion using hyperchaotic 2D Vincent map derived from optimization benchmark function**  
Erkan U., TOKTAŞ A., Memiş S., Lai Q., Hu G.  
Nonlinear Dynamics, vol.111, no.21, pp.20377-20405, 2023 (SCI-Expanded)
13. **Image encryption using fission diffusion process and a new hyperchaotic map**  
Lai Q., Hua H., Zhao X., Erkan U., TOKTAŞ A.  
Chaos, Solitons and Fractals, vol.175, 2023 (SCI-Expanded)
14. **Hyperparameter optimization of deep CNN classifier for plant species identification using artificial bee colony algorithm**  
Erkan U., Toktas A., Ustun D.  
JOURNAL OF AMBIENT INTELLIGENCE AND HUMANIZED COMPUTING, vol.14, no.7, pp.8827-8838, 2023 (SCI-Expanded)

15. **Parameter optimization of chaotic system using Pareto-based triple objective artificial bee colony algorithm**  
TOKTAŞ A., Erkan U., Ustun D., Wang X.  
Neural Computing and Applications, vol.35, no.18, pp.13207-13223, 2023 (SCI-Expanded)
16. **High-efficiency medical image encryption method based on 2D Logistic-Gaussian hyperchaotic map**  
Lai Q., Hu G., Erkan U., TOKTAŞ A.  
Applied Mathematics and Computation, vol.442, 2023 (SCI-Expanded)
17. **A novel pixel-split image encryption scheme based on 2D Salomon map**  
Lai Q., Hu G., Erkan U., TOKTAŞ A.  
Expert Systems with Applications, vol.213, 2023 (SCI-Expanded)
18. **2D hyperchaotic system based on Schaffer function for image encryption**  
Erkan U., Toktaş A., Lai Q.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.213, pp.1-12, 2023 (SCI-Expanded)
19. **Ultra-Wideband Monopole Antenna with Defected Ground for Millimeter-Wave Applications**  
TOKTAŞ A., Turkmen H. A.  
JOURNAL OF INFRARED MILLIMETER AND TERAHERTZ WAVES, vol.44, pp.37-51, 2023 (SCI-Expanded)
20. **Design of two dimensional hyperchaotic system through optimization benchmark function**  
Erkan U., TOKTAŞ A., Lai Q.  
Chaos, Solitons and Fractals, vol.167, 2023 (SCI-Expanded)
21. **ABC algorithm-based optimization and evaluation of nano carbon black added multi-layer microwave absorbing ultra weight foam concrete**  
Yildizel S. A., TOKTAŞ A.  
Materials Today Communications, vol.32, 2022 (SCI-Expanded)
22. **Modified artificial bee colony algorithm with differential evolution to enhance precision and convergence performance**  
Ustun D., TOKTAŞ A., Erkan U., Akdagli A.  
Expert Systems with Applications, vol.198, 2022 (SCI-Expanded)
23. **2D e pi-map for image encryption**  
Erkan U., Toktaş A., Toktas F., Alenezi F.  
INFORMATION SCIENCES, vol.589, pp.770-789, 2022 (SCI-Expanded)
24. **2D fully chaotic map for image encryption constructed through a quadruple-objective optimization via artificial bee colony algorithm**  
Toktas A., Erkan U.  
NEURAL COMPUTING & APPLICATIONS, vol.34, no.6, pp.4295-4319, 2022 (SCI-Expanded)
25. **An optimized surrogate model using differential evolution algorithm for computing parameters of antennas**  
Ustun D., Toktas F., Toktaş A.  
INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS, vol.35, no.2, 2022 (SCI-Expanded)
26. **An image encryption scheme based on chaotic logarithmic map and key generation using deep CNN**  
Erkan U., Toktaş A., Enginoğlu S., Akbacak E., Thanh D. N. H.  
MULTIMEDIA TOOLS AND APPLICATIONS, vol.81, no.5, pp.7365-7391, 2022 (SCI-Expanded)
27. **An image encryption scheme based on an optimal chaotic map derived by multi-objective optimization using ABC algorithm**  
Toktaş A., Erkan U., Ustun D.  
NONLINEAR DYNAMICS, vol.105, no.2, pp.1885-1909, 2021 (SCI-Expanded)
28. **A symbiotic organisms search algorithm-based design optimization of constrained multi-objective engineering design problems**  
Ustun D., Carbas S., Toktaş A.  
ENGINEERING COMPUTATIONS, vol.38, no.2, pp.632-658, 2021 (SCI-Expanded)
29. **Chaotic Map Optimization for Image Encryption Using Triple Objective Differential Evolution**

## Algorithm

Toktaş A., Erkan U., Toktas F., Yetgin Z.

IEEE ACCESS, vol.9, pp.127814-127832, 2021 (SCI-Expanded)

30. **Pioneer Pareto artificial bee colony algorithm for three-dimensional objective space optimization of composite-based layered radar absorber**  
Toktaş A., Ustun D., Erdogan N.  
APPLIED SOFT COMPUTING, vol.96, 2020 (SCI-Expanded)
31. **A Triple-Objective Optimization Scheme Using Butterfly-Integrated ABC Algorithm for Design of Multilayer RAM**  
Toktaş A., Ustun D.  
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.68, no.7, pp.5602-5612, 2020 (SCI-Expanded)
32. **Global optimisation scheme based on triple-objective ABC algorithm for designing fully optimised multi-layer radar absorbing material**  
Toktaş A., Ustun D., Tekbas M.  
IET MICROWAVES ANTENNAS & PROPAGATION, vol.14, no.8, pp.800-811, 2020 (SCI-Expanded)
33. **Translational Motion Compensation for ISAR Images Through a Multicriteria Decision Using Surrogate-Based Optimization**  
Ustun D., Toktaş A.  
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, vol.58, no.6, pp.4365-4374, 2020 (SCI-Expanded)
34. **Multi-Objective Design of Multi-Layer Radar Absorber Using Surrogate-Based Optimization**  
Toktaş A., Ustun D., Tekbas M.  
IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, vol.67, no.8, pp.3318-3329, 2019 (SCI-Expanded)
35. **A neurocomputational model for estimating the triple-frequency of T-shaped patch antennas**  
Yigit E., Kayabasi A., Toktaş A., Sabanci K.  
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.61, no.6, pp.1590-1597, 2019 (SCI-Expanded)
36. **A Hue-domain filtering technique for enhancing spatial sampled compressed sensing-based SAR images**  
Sabanci K., Yigit E., Toktaş A., Kayabasi A.  
IET RADAR SONAR AND NAVIGATION, vol.13, no.3, pp.357-367, 2019 (SCI-Expanded)
37. **A compact reconfigurable ultra-wideband G-shaped printed antenna with band-notched characteristic**  
Toktaş A., Yerlikaya M.  
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.61, no.1, pp.245-250, 2019 (SCI-Expanded)
38. **A study on visual features of leaves in plant identification using artificial intelligence techniques**  
Yigit E., Sabanci K., Toktaş A., Kayabasi A.  
COMPUTERS AND ELECTRONICS IN AGRICULTURE, vol.156, pp.369-377, 2019 (SCI-Expanded)
39. **Deep neural network-based soft computing the resonant frequency of E-shaped patch antennas**  
Ustun D., Toktaş A., Akdagli A.  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.102, pp.54-61, 2019 (SCI-Expanded)
40. **Triangular quad-port multi-polarized UWB MIMO antenna with enhanced isolation using neutralization ring**  
Kayabasi A., Toktaş A., Yigit E., Sabanci K.  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.85, pp.47-53, 2018 (SCI-Expanded)
41. **AUTOMATIC CLASSIFICATION OF AGRICULTURAL GRAINS: COMPARISON OF NEURAL NETWORKS**  
Kayabasi A., Toktaş A., Sabanci K., Yigit E.  
NEURAL NETWORK WORLD, vol.28, no.3, pp.213-224, 2018 (SCI-Expanded)
42. **CFAR based morphological filter design to remove clutter from GB-SAR images: An application to real data**

- Toktaş A., Yigit E., Sabanci K., Kayabasi A.  
 MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.59, no.10, pp.2685-2692, 2017 (SCI-Expanded)
43. **Grain classifier with computer vision using adaptive neuro-fuzzy inference system**  
 Sabanci K., Toktaş A., Kayabasi A.  
 JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE, vol.97, no.12, pp.3994-4000, 2017 (SCI-Expanded)
44. **Computer vision-based method for classification of wheat grains using artificial neural network**  
 Sabanci K., Kayabasi A., TOKTAŞ A.  
 JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE, vol.97, no.8, pp.2588-2593, 2017 (SCI-Expanded)
45. **NOTCH ANTENNA ANALYSIS: AN EXPRESSION FOR CALCULATION OF THE OPERATING FREQUENCY**  
 Toktaş A., Kayabasi A., Sabanci K., Yigit E.  
 MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.59, no.6, pp.1309-1313, 2017 (SCI-Expanded)
46. **G-shaped band-notched ultra-wideband MIMO antenna system for mobile terminals**  
 TOKTAŞ A.  
 IET MICROWAVES ANTENNAS & PROPAGATION, vol.11, no.5, pp.718-725, 2017 (SCI-Expanded)
47. **Notch Antenna Analysis: Artificial Neural Network-based Operating Frequency Estimator**  
 Sabanci K., Kayabasi A., TOKTAŞ A., Yigit E.  
 APPLIED COMPUTATIONAL ELECTROMAGNETICS SOCIETY JOURNAL, vol.32, no.4, pp.303-309, 2017 (SCI-Expanded)
48. **Log-periodic dipole array-based MIMO antenna for the mobile handsets**  
 Toktaş A.  
 JOURNAL OF ELECTROMAGNETIC WAVES AND APPLICATIONS, vol.30, no.3, pp.351-365, 2016 (SCI-Expanded)
49. **Design of wideband orthogonal MIMO antenna with improved correlation using a parasitic element for mobile handsets**  
 Akdagli A., TOKTAŞ A.  
 INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES, vol.8, no.1, pp.109-115, 2016 (SCI-Expanded)
50. **Scalable Notch Antenna System for Multiport Applications**  
 Toktaş A.  
 INTERNATIONAL JOURNAL OF ANTENNAS AND PROPAGATION, vol.2016, 2016 (SCI-Expanded)
51. **A novel and simple expression to accurately calculate the resonant frequency of annular-ring microstrip antennas**  
 Toktaş A., Bicer M. B., Kayabasi A., Ustun D., Akdagli A., Kurt K.  
 INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES, vol.7, no.6, pp.727-733, 2015 (SCI-Expanded)
52. **Compact multiple-input multiple-output antenna with low correlation for ultra-wide-band applications**  
 Toktaş A., Akdagli A.  
 IET MICROWAVES ANTENNAS & PROPAGATION, vol.9, no.8, pp.822-829, 2015 (SCI-Expanded)
53. **A POWERFUL METHOD BASED ON ARTIFICIAL BEE COLONY ALGORITHM FOR TRANSLATIONAL MOTION COMPENSATION OF ISAR IMAGE**  
 Ustun D., Ozdemir C., Akdagli A., Toktaş A., Bicer M. B.  
 MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.56, no.11, pp.2691-2698, 2014 (SCI-Expanded)
54. **Applications of ANN and ANFIS to Predict the Resonant Frequency of L-Shaped Compact Microstrip Antennas**  
 Kayabasi A., Toktaş A., Akdagli A., Bicer M. B., Ustun D.  
 APPLIED COMPUTATIONAL ELECTROMAGNETICS SOCIETY JOURNAL, vol.29, no.6, pp.460-469, 2014 (SCI-Expanded)
55. **Wideband MIMO antenna with enhanced isolation for LTE, WiMAX and WLAN mobile handsets**  
 Toktaş A., Akdagli A.  
 ELECTRONICS LETTERS, vol.50, no.10, pp.723-724, 2014 (SCI-Expanded)
56. **ANFIS model for determining resonant frequency of rectangular ring compact microstrip antennas**

Akdagli A., Toktaş A., Bicer M. B., Kayabasi A., Ustun D., Kurt K.

INTERNATIONAL JOURNAL OF APPLIED ELECTROMAGNETICS AND MECHANICS, vol.46, no.3, pp.483-490, 2014 (SCI-Expanded)

57. **AN APPLICATION OF ARTIFICIAL NEURAL NETWORK TO COMPUTE THE RESONANT FREQUENCY OF E-SHAPED COMPACT MICROSTRIP ANTENNAS**  
Akdagli A., Toktaş A., Kayabasi A., Develi İ.  
JOURNAL OF ELECTRICAL ENGINEERING-ELEKTROTECHNICKY CASOPIS, vol.64, no.5, pp.317-322, 2013 (SCI-Expanded)
58. **Calculating the dual-frequencies of equilateral triangular compact microstrip antennas with a shorting-pin**  
Toktaş A., Akdagli A., Yagoub M. C. E.  
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.55, no.6, pp.1227-1230, 2013 (SCI-Expanded)
59. **COMPUTATION OF RESONANT FREQUENCY OF E-SHAPED COMPACT MICROSTRIP ANTENNAS**  
Toktaş A., Akdagli A.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.27, no.4, pp.847-854, 2012 (SCI-Expanded)
60. **COMPUTING RESONANT FREQUENCY OF H-SHAPED COMPACT MICROSTRIP ANTENNAS OPERATING AT UHF BAND BY USING ARTIFICIAL NEURAL NETWORKS**  
Kayabasi A., Bicer M. B., Akdagli A., Toktaş A.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.26, no.4, pp.833-840, 2011 (SCI-Expanded)
61. **SIMPLE FORMULAS FOR CALCULATING RESONANT FREQUENCIES OF C AND H SHAPED COMPACT MICROSTRIP ANTENNAS OBTAINED BY USING ARTIFICIAL BEE COLONY ALGORITHM**  
Toktaş A., Bicer M. B., Akdagli A., Kayabasi A.  
JOURNAL OF ELECTROMAGNETIC WAVES AND APPLICATIONS, vol.25, no.11-12, pp.1718-1729, 2011 (SCI-Expanded)
62. **A NOVEL EXPRESSION IN CALCULATING RESONANT FREQUENCY OF H-SHAPED COMPACT MICROSTRIP ANTENNAS OBTAINED BY USING ARTIFICIAL BEE COLONY ALGORITHM**  
Akdagli A., Toktaş A.  
JOURNAL OF ELECTROMAGNETIC WAVES AND APPLICATIONS, vol.24, no.14-15, pp.2049-2061, 2010 (SCI-Expanded)

## Articles Published in Other Journals

1. **Circularly Polarized Triangular Patch Antenna**  
Toktaş A.  
Recent Advances in Electrical & Electronic Engineering, vol.15, 2022 (ESCI)
2. **Küçük Boyutlu Saçak Açıklıklı ve Toprak Düzleminde Boşluk Açılmış Geniş Bant Mikroşerit Anten Tasarımı (Small Fringed Cavity and Slotted Ground Plane Broadband Microstrip Antenna Design)**  
Toktaş A.  
KMÜ MÜHENDİSLİK VE DOĞA BİLİMLERİ DERGİSİ, vol.1, no.1, pp.70-78, 2019 (Peer-Reviewed Journal)
3. **Üçgen Açıklıklı Ultra Geniş Bant Monopol Bir Antenin Tasarlanması (Designing an Ultra-Wideband Monopole Antenna with Triangular Aperture)**  
Türkmen H. A., Toktaş A.  
KMÜ MÜHENDİSLİK VE DOĞA BİLİMLERİ DERGİSİ, vol.1, no.1, pp.146-155, 2019 (Peer-Reviewed Journal)
4. **Design of Mobile Meteorological Station with Embedded System Control**  
Kayabaşı A., Yıldız B., Sabancı K., Toktaş A., Yerlikaya M.  
International Journal of Innovation Engineering and Science Research, vol.3, no.3, pp.34-40, 2019 (Peer-Reviewed Journal)
5. **Görüntü İşleme Tekniklerine Dayalı Sinirsel-Bulanık Sistem Modeli Kullanarak Buğday Danelerinin**

## Sınıflandırılması

Kayabaşı A., Sabancı K., Toktaş A.

Akıllı Sistemler ve Uygulamaları Dergisi, vol.1, no.1, pp.57-61, 2018 (Peer-Reviewed Journal)

6. **Equivalent Circuit Modelling of an L-shaped Patch Antenna by Optimizing the Lumped Elements Using Differential Evolution Algorithm**  
Toktaş A.  
International Journal of Intelligent Systems and Applications in Engineering, vol.5, no.4, pp.216-221, 2017 (Peer-Reviewed Journal)
7. **ANN-BASED CLASSIFIER TRAINED BY BAYESIAN REGULARIZATION FOR WHEAT GRAINS THROUGH COLOUR FEATURE**  
Kayabaşı A., Yıldız B., Sabancı K., Yiğit E., Toktaş A., Tekbaş M.  
International Journal of Environmental Trends, vol.1, no.1, pp.46-53, 2017 (Peer-Reviewed Journal)
8. **A Comparative Classification of Wheat Grains for Artificial Neural Network and Extreme Learning Machine**  
Sabancı K., Aslan M. F., Yiğit E., Kayabaşı A., Toktaş A., Duysak H.  
International Journal of Environmental Trends, vol.1, no.1, pp.14-21, 2017 (Peer-Reviewed Journal)
9. **Design of an ANN Model Trained by Various Learning Algorithms to Compute the Operating Frequency of E shaped Patch Antennas**  
Kayabaşı A., Toktaş A., Akdağlı A.  
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.21, no.2, pp.465-471, 2016 (Peer-Reviewed Journal)
10. **Microstrip fed Triangular UWB Microstrip Antenna Based on DGS**  
Toktaş A., Yerlikaya M., Yiğit E.  
International Journal of Applied Mathematics, Electronics and Computers, vol.4, no.1, pp.43-47, 2016 (Peer-Reviewed Journal)
11. **Designs of multiple input multiple output antennas for GSM LTE WIMAX and WLAN standards**  
Toktaş A., Akdağlı A.  
International Journal of Scientific and Technological Research, vol.1, no.1, pp.61-82, 2015 (Peer-Reviewed Journal)
12. **A comparative study for slot loaded compact microstrip antennas by using methods based on FDTD FEM and MoM**  
Toktaş A., Akdağlı A., Biçer M. B., Özdemir C., Yamaçlı V.  
International Journal of Research in Computer and Communication Technology, vol.2, no.10, pp.920-924, 2013 (Peer-Reviewed Journal)
13. **DESIGN AND FABRICATION OF E-SHAPED COMPACT MICROSTRIP ANTENNA**  
Toktaş A., Akdagli A.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.30, no.4, pp.458-466, 2012 (ESCI)
14. **Selected patents on compact microstrip antennas**  
Toktaş A., Akdağlı A., Özdemir C., Biçer M. B., Toktaş F., Yılmaz B.  
Recent Advances in Electrical & Electronic Engineering, vol.5, no.1, pp.1-10, 2012 (Scopus)

## Books & Book Chapters

1. **Nature-Inspired Metaheuristic Algorithms For Engineering Optimization Applications**  
Çarbaş S., Toktaş A., Üstün D.  
Springer, London/Berlin , Singapore, 2021
2. **Multi-objective optimization of engineering design problems through Pareto-based bat algorithm**  
Üstün D., Çarbaş S., Toktaş A.  
in: Applications of BAT Algorithm and its Variants, Nilanjan Dey, Venkatesan Rajinikanth, Editor, Springer, London/Berlin , Singapore, pp.19-43, 2021
3. **Implementation of flower pollination algorithm to the design optimization of planar antennas**



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4. **Design optimization of multi-objective structural engineering problems via artificial bee colony algorithm**  
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  6. **Introduction and Overview: Nature-Inspired Metaheuristic Algorithms for Engineering Optimization Applications**  
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### Refereed Congress / Symposium Publications in Proceedings

1. **Design Optimization of Multilayer Microwave Filter Using Differential Evolution Algorithm**  
Toktaş A., Üstün D.  
9th IEEE Open Conference of Electrical, Electronic and Information Sciences (eStream), Vilnius, Lithuania, 21 April 2022
2. **A New Pi-based Chaotic Map for Image Encryption**  
Erkan U., Toktaş A., Toktaş F.  
2021 International Conference in Advances in Power, Signal, and Information Technology (APSIT), Bhubaneswar, India, 08 October 2021
3. **Triangular Aperture UWB Antenna with Dual Band-Notched Characteristic for WLAN Bands**  
Toktaş A.  
2021 IEEE Microwave Theory and Techniques in Wireless Communications (MTTW), Riga, Latvia, 07 October 2021
4. **A Novel Euler Chaotic Map for Image Encryption**  
Toktaş A., Erkan U., Toktaş F.  
2021 International Conference on INnovations in Intelligent Systems and Applications (INISTA), Kocaeli, Turkey, 25 August 2021
5. **Adaptive Flower Pollination Algorithm Based on Spatial Dispersal**  
Üstün D., Toktaş A.  
2020 4th International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), İstanbul, Turkey, 22 October 2020
6. **Design of a Dual Polarized mmWave Horn Antenna Using Decoupled Microstrip Line Feeder**  
Tekbaş M., Toktaş A., Çakır G.  
2020 International Conference on Electrical Engineering (ICEE), İstanbul, Turkey, 25 - 27 September 2020
7. **Dual-element MIMO Inverted-F Antenna for Mobile Devices**  
TOKTAŞ A., Üstün D.  
IEEE 25th International Seminar / Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 15 - 18 September 2020, pp.126-129
8. **Dual-objective Design of Multilayer Radar Absorbing Composite Material Using Butterfly Optimization Algorithm**  
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Wave Theory (DIPED), Tbilisi, Georgia, 15 - 18 September 2020, pp.77-81

9. **C ve X-Bant Uygulamaları için Kompakt Ultra Geniş Bant Dirgen Şekilli Mikroşerit Anten Tasarımı**  
Kuşulay İ., Toktaş A.  
Elektrik Elektronik Mühendisliği Kongresi 2019 (EEMKON 2019), İstanbul, Turkey, 14 - 16 November 2019
10. **Design of Quad-port Circular MIMO Antenna With Isolation Improved by Shorting Walls**  
Toktaş A., Ustun D., Tekbas M.  
24th International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Lviv, Ukraine, 12 - 14 September 2019, pp.93-96
11. **A Formulaic Model Calculating the Permittivity of Testing Materials Placed on a Circular Patch Antenna**  
Tekbas M., Toktaş A., Ustun D.  
24th International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Lviv, Ukraine, 12 - 14 September 2019, pp.88-92
12. **Determination of Feed Point by Surrogate Model Based on Radial Basis Function for Rectangular Microstrip Antennas**  
Ustun D., Tekbas M., Toktaş A.  
International Conference on Artificial Intelligence and Data Processing (IDAP), Malatya, Turkey, 21 - 22 September 2019
13. **Thingspeak Based Monitoring IoT System for Counting People in A Library**  
Sabancı K., Yiğit E., Üstün D., Toktaş A., Çelik Y.  
International conference on artificial intelligence and data processing, Malatya, Turkey, 28 - 30 September 2018
14. **3D level measurement design by using multi static X-band radar**  
Yiğit E., Toktaş A., Sabancı K., Üstün D., İşiker H.  
2018 Electric Electronics, Computer Science, Biomedical Engineerings'xx Meeting (EBBT), İstanbul, Turkey, 18 - 19 April 2018
15. **Reconfigurable Band-Notched Compact C-shaped Printed Antenna for UWB Applications**  
Toktaş A., Yigit E., Ustun D., Sabanci K., Yerlikaya M.  
23rd International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 24 - 27 September 2018, pp.181-184
16. **An UWB Antenna Design Having Band-Reject Characteristic by Y-Shaped Strip**  
Ustun D., Toktaş A., Sabanci K., Yigit E., Toktas F.  
23rd International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 24 - 27 September 2018, pp.185-188
17. **WiFi Based Indoor Localization: Application and Comparison of Machine Learning Algorithms**  
Sabanci K., Yigit E., Ustun D., Toktaş A., Aslan M. F.  
23rd International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 24 - 27 September 2018, pp.246-251
18. **Grain Moisture Detection by Using A-Scan Radar Measurement**  
Yigit E., Sabanci K., Toktaş A., Ustun D., Duysak H.  
23rd International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 24 - 27 September 2018, pp.222-224
19. **Optimally Synthesizing Multilayer Radar Absorbing Material (RAM) Using Artificial Bee Colony Algorithm**  
Toktaş A., Ustun D., Yigit E., Sabanci K., Tekbas M.  
23rd International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 24 - 27 September 2018, pp.237-241
20. **GPR Image Focusing Using Matched Filter Algorithm**  
Ustun D., Yigit E., Toktaş A., Sabanci K., Duysak H.  
23rd International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 24 - 27 September 2018, pp.242-245
21. **Classification Of Wheat Grains Using Image Processing Techniques Based Neuro-Fuzzy System Model**

Kayabaşı A., Sabancı K., Toktaş A.

Akıllı Sistemlerde Yenilikler ve Uygulamalar (ASYU 2017), Antalya, Turkey, 5 - 07 October 2017

22. **ANN and ELM Based Notch Antenna Operating Frequency Determination**  
Sabancı K., Yiğit E., Kayabaşı A., Toktaş A., Duysak H., Aslan M. F.  
8th International Advanced Technologies Symposium (IATS), Elazığ, Turkey, 19 - 22 October 2017
23. **CFAR Detector Based Morphological Filter Design to Remove Clutter From GB-SAR Images**  
Yiğit E., Duysak H., Toktaş A., Sabancı K., Kayabaşı A., Yerlikaya M.  
8th International Advanced Technologies Symposium (IATS), Elazığ, Turkey, 19 - 22 October 2017
24. **Colour feature-based classification of wheat grain using ANN with bayesian regularization learning algorithm**  
Kayabaşı A., Yıldız B., Sabancı K., Yiğit E., Toktaş A., Tekbaş M.  
3rd International Conference on Science, Ecology and Technology (ICONSETE), Rome, Italy, 14 - 16 August 2017
25. **Classification of bread and durum wheat using ELM and ANN**  
Sabancı K., Aslan M. F., Yiğit E., Kayabaşı A., Toktaş A., Duysak H.  
3rd International Conference on Science, Ecology and Technology (ICONSETE), Rome, Italy, 14 - 16 August 2017
26. **MILLIMETRE WAVE ISAR IMAGING TECHNIQUE BASED ON SPARSE APERTURE DATA COLLECTION**  
Yigit E., Kayabasi A., Toktaş A., Sabanci K., Tekbas M., Duysak H.  
5th International Symposium on Electrical and Electronics Engineering (ISEEE), Galati, Romania, 20 - 22 October 2017
27. **Reducing Mutual Coupling For a Square UWB MIMO Antenna Using Various Parasitic Structures**  
Toktaş A., Yerlikaya M., Sabancı K., Kayabasi A., Yigit E., Tekbas M.  
10th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 30 November - 02 December 2017, pp.982-986
28. **IMAGE PROCESSING BASED ANN WITH BAYESIAN REGULARIZATION LEARNING ALGORITHM FOR CLASSIFICATION OF WHEAT GRAINS**  
Kayabasi A., Sabanci K., Yigit E., Toktaş A., Yerlikaya M., Yildiz B.  
10th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 30 November - 02 December 2017, pp.1166-1170
29. **A GENERALIZED FORMULA IN CALCULATION OF THE RESONANT FREQUENCY OF NOTCH ANTENNA**  
Toktaş A., Tekbas M., Kayabasi A., Yigit E., Sabanci K., Yerlikaya M.  
5th International Symposium on Electrical and Electronics Engineering (ISEEE), Galati, Romania, 20 - 22 October 2017
30. **Printed form of LPDA based MIMO antenna system with neutralization line for mobile terminals**  
Toktaş A.  
4th International Conference on Advanced Technology Sciences (ICAT'xxRome), Rome, Italy, 23 - 25 November 2016
31. **Compact Coplanar UWB Monopole Antenna with Arc shaped Tapered Apertures**  
Toktaş A., Yerlikaya M.  
1st International Mediterranean Science and Engineering Congress (IMSEC 2016), Adana, Turkey, 26 - 28 October 2016, pp.960-966
32. **Haberleşme Sistemleri İçin Dairesel Polarizasyonlu Ultra geniş bant Yama Anten Sistemi**  
Toktaş A., Yerlikaya M.  
4th International Symposium on Development of KOP Region, Karaman, Turkey, 21 - 23 October 2016, pp.690-695
33. **Low Profile Reconfigurable Ultra wideband Monopole Patch Antenna**  
Toktaş A., Yerlikaya M.  
4th International Symposium on Development of KOP Region, Karaman, Turkey, 21 - 23 October 2016
34. **Defected ground structure based ultra wideband triangular patch antenna**  
Toktaş A., Yerlikaya M., Yiğit E.  
3rd International Conference on Advanced Technology Sciences (ICAT16), Konya, Turkey, 1 - 03 September 2016, pp.685-688
35. **Computing the Operating Frequency of E shaped Patch Antennas by Using Decision Tables**

- Kayabaşı A., Sabancı K., Toktaş A.  
International Scientific Conference on Applied Sciences, Antalya, Turkey, 27 - 30 September 2016, pp.60-63
36. **Design of an ultra wideband triangular monopole printed antenna**  
Toktaş A., Yerlikaya M., Yiğit E.  
The International Conference on Engineering Technology and Applied Sciences, Afyonkarahisar, Turkey, 21 - 22 April 2016
37. **A coplanar waveguide fed ultra wideband printed antenna**  
Toktaş A., Yerlikaya M.  
The International Conference on Engineering Technology and Applied Sciences, Afyonkarahisar, Turkey, 21 - 22 April 2016
38. **Input and output matching circuits design for low noise amplifiers by using tapered microstrip lines**  
Yerlikaya M., Toktaş A.  
1st International Conference on Engineering and Natural Sciences, Skopje, Macedonia, 15 - 19 May 2015
39. **CS-BASED RADAR MEASUREMENT OF SILOS LEVEL**  
Yigit E., Isiker H., Toktaş A., Tjuatja S.  
IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Milan, Italy, 26 - 31 July 2015, pp.3746-3749
40. **Yapay sinir ağları kullanarak UHF bandında çalışan C şekilli kompakt mikroşerit antenlerin rezonans frekansının belirlenmesi**  
Kayabaşı A., Akdağlı A., Biçer M. B., Toktaş A.  
V. URSI-Türkiye Bilimsel Kongresi, Güzelyurt, Cyprus (Kkct), 25 - 27 August 2010, pp.120-123
41. **Alternatif genişbant kablosuz erişim tekniği WI MAX**  
Toktaş A., Akdağlı A.  
III. İletişim Teknolojileri Ulusal Sempozyumu, Adana, Turkey, 1 - 03 February 2007, pp.1-6

## Academic and Administrative Experience

2022 - Continues	<b>Head of Department</b>	Ankara University, Mühendislik Fakültesi, Yapay Zeka ve Veri Mühendisliği Bölümü
2015 - 2018	<b>Head of Department</b>	Karamanoglu Mehmetbey University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering
2015 - 2017	<b>Head of Department</b>	Karamanoglu Mehmetbey University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering
2009 - 2015	<b>Network Sorumlusu</b>	Mersin University, Information Technologies

## Courses

Digital Signal Processing, Undergraduate, 2023 - 2024  
INTRODUCTION TO COMMUNICATION SYSTEMS, Undergraduate, 2021 - 2022  
ELECTROMAGNETIC FIELDS, Undergraduate, 2021 - 2022  
MICROSTRIP ANTENNAS, Postgraduate, 2021 - 2022  
ADVANCED ENGINEERING ELECTROMAGNETICS, Postgraduate, 2021 - 2022  
COMPUTER AIDED ANTENNA DESIGN, Postgraduate, 2021 - 2022  
ADVANCED MICROWAVE TECHNIQUE, Doctorate, 2021 - 2022  
MICROWAVE ENGINEERING, Postgraduate, 2021 - 2022  
ELECTROMAGNETIC WAVES, Undergraduate, 2021 - 2022

ENGINEERING MATHEMATICS, Undergraduate, 2021 - 2022  
OPTIMIZATION TECHNIQUES, Postgraduate, 2017 - 2018  
ANTENNA THEORY, Postgraduate, 2017 - 2018  
ELECTRIC ENERGY TRANSMISSION AND DISTRIBUTION, Undergraduate, 2015 - 2016

## Advising Theses

Çakır G., Toktaş A., DEVELOPMENT OF INTEGRATED RECEIVER AND ANTENNA FOR PASSIVE MILLIMETER WAVE IMAGING SYSTEM, Doctorate, M.TEKBAŞ(Student), 2023  
Toktaş A., Erkan U., Parçacık sürü optimizasyon algoritması ile kaotik tabanlı görüntü şifreleme, Postgraduate, Ö.KOÇAK(Student), 2021  
Toktaş A., Erkan U., Kelebek optimizasyon algoritması ile kaotik tabanlı görüntü şifreleme, Postgraduate, A.KARABULUT(Student), 2021  
Toktaş A., Yapay arı koloni algoritması kullanılarak çok katmanlı mikrodalga soğurucu özellikli kalkanlayıcı beton tasarımı, Postgraduate, K.SARI(Student), 2021  
Toktaş A., 5G haberleşme sistemleri için geniş bant milimetre dalga mikroşerit antenin tasarlanması ve gerçekleştirilmesi, Postgraduate, H.ALPER(Student), 2021  
Toktaş A., Bant çentik anahtarlamalı ultra geniş bant anten tasarımı ve prototiplenmesi, Postgraduate, M.YERLİKAYA(Student), 2017

## Patent

Toktaş A., Erkan U., HIGH CONFIDENCE BIT-LEVEL IMAGE ENCRYPTION METHOD BASED ON BESSEL MAP, Patent, CHAPTER H Electricity, The Invention Recourse Number: 2024/010582 , Standard Registration, 2024  
Toktaş A., Erkan U., AN IMAGE ENCRYPTION AND DESCRIPTION METHOD BASED ON HYPERCHAOTIC MAP DERIVED FROM ROSENBOCK OPTIMIZATION FUNCTION, Patent, CHAPTER H Electricity, The Invention Registration Number: TP23-1260 , Standard Registration, 2024  
Toktaş A., Erkan U., THREE-DIRECTION SCRAMBLED IMAGE ENCRYPTION METHOD BASED ON TWO-DIMENSIONAL HYPER CHAOTIC VINCENT MAP, Patent, CHAPTER H Electricity, The Invention Recourse Number: 2023/009892 , Standard Registration, 2023  
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Toktaş A., Toktaş F., Erkan U., EULER-PI SAYILARINI KULLANARAK İKİ BOYUTLU HİPERKAOTİK HARİTAYA DAYALI BASİT VE ETKİLİ BİR GÖRÜNTÜ ŞİFRELEME YÖNTEMİ, Patent, CHAPTER H Electricity, The Invention Recourse Number: 2022/020343 , Standard Registration, 2022  
Toktaş A., Sarı K., Electromagnetic wave absorbing layered concrete panel, Patent, CHAPTER H Electricity, The Invention Recourse Number: 2021/020074 , Standard Registration, 2021  
Toktaş A., Üstün D., Tekbaş M., Wide band low observable multi-layer radar absorbing composite material, Patent, CHAPTER H Electricity, The Invention Recourse Number: 2020/15115 , Standard Registration, 2020  
Toktaş A., WIDEBAND MIMO ANTENNA SYSTEM FOR WIRELESS PORTABLE DEVICES, Patent, CHAPTER H Electricity, The Invention Registration Number: 2016 04829 , Standard Registration, 2019

## Metrics

Publication: 123

Citation (WoS): 1275

Citation (Scopus): 1589

H-Index (WoS): 20

H-Index (Scopus): 23

## Research Areas

Computer Sciences, algorithms, Simulation and Modelling, Information Security and Reliability, Hiding Information, Cryptography, Computer Vision, Computer Vision, Artificial Intelligence, Computer Learning and Pattern Recognition, Computer Learning, Natural Language Processing, Human Computer Interaction, Automated Problem Solving, Theorem Proving and Logical Reasoning, Neural Networks, Software, Electrical and Electronics Engineering, Electromagnetic, Wave Propagation and Remote Sensing, Electric and Magnetic Fields, Electromagnetic Environment and Interaction, Electromagnetic Waves, Antennas and Propagation, Engineering and Technology