

## Prof. MEHMET AKİF BAKIR

### Personal Information

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**Web:** <https://avesis.gazi.edu.tr/mabakir>

### International Researcher IDs

ScholarID: Ozg08vIAAAAJ

ORCID: 0000-0003-0774-0338

Publons / Web Of Science ResearcherID: B-1265-2018

ScopusID: 7004618918

Yoksis Researcher ID: 2746

### Education Information

Doctorate, The University of Nottingham, United Kingdom 1990 - 1996

Postgraduate, Gazi University, Sosyal Bilimler Enstitüsü, Ekonometri (YI) (Tezli), Turkey 1984 - 1987

Undergraduate, Gazi University, Fen-Edebiyat Fakültesi, İstatistik Pr., Turkey 1979 - 1983

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, A Hybrid Analytic/Simulation Modelling Approach to Production Planning, The University of Nottingham, 1996

Postgraduate, Doğrusal programlama ile üretim planlaması ve Malatya Şeker Fabrikasında bir uygulama, Gazi University, Sosyal Bilimler Enstitüsü, Ekonometri (YI) (Tezli), 1986

### Research Areas

Statistics

### Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, İstatistik, 2010 - Continues

Associate Professor, Gazi University, Fen Fakültesi, İstatistik, 2005 - 2010

Assistant Professor, Gazi University, Fen Fakültesi, İstatistik, 1997 - 2005

Research Assistant, Gazi University, Fen Fakültesi, İstatistik, 1987 - 2002

### Academic and Administrative Experience

Rektörlük Kalite Komisyonu Üyesi, Gazi University, Fen Fakültesi, İstatistik, 2022 - Continues  
Manager of Research and Application Center, Gazi University, Fen Fakültesi, İstatistik, 2021 - Continues  
Head of Department, Gazi University, Fen Fakültesi, İstatistik, 2020 - Continues  
Gazi University, Fen Fakültesi, İstatistik Bölümü, 2014 - Continues  
Gazi University, Fen Fakültesi, İstatistik Bölümü, 2011 - 2014  
Gazi University, Kazaları Araştırma ve Önleme Enstitüsü, 2011 - 2012  
Gazi University, Fen Fakültesi, 2009 - 2012

## Courses

### Postgraduate

REGRESYON ANALİZİ, Postgraduate, 2017 - 2018, 2016 - 2017  
ZAMAN DİZİLERİ ÇÖZÜMLEMESİ, Postgraduate, 2017 - 2018, 2016 - 2017

### Undergraduate

İSTATİSTİKSEL KALİTE KONTROLÜ, Undergraduate, 2017 - 2018, 2016 - 2017  
PROBABİLİTY II, Undergraduate, 2017 - 2018, 2016 - 2017  
OLASILIK I, Undergraduate, 2017 - 2018, 2016 - 2017  
PROBABILITY I, Undergraduate, 2017 - 2018, 2016 - 2017  
OLASILIK II, Undergraduate, 2017 - 2018, 2016 - 2017  
STATİSTİKAL QUALİTY CONTROL, Undergraduate, 2017 - 2018, 2016 - 2017  
TIME SERIES ANALYSIS, Undergraduate, 2017 - 2018, 2016 - 2017  
ZAMAN DİZİLERİ ÇÖZÜMLEMESİ, Undergraduate, 2017 - 2018, 2016 - 2017

## Supervised Theses

BAKIR M. A., Determnation Of The Source Of Out Of Control Signals In Multivariate Statistical Processes, Doctorate, Z.ÖZDEMİR(Student), 2020  
BAKIR M. A., Uyarlanmış Itakura-Saito uzaklığı ile ses sinyallerinin benzerlik analizi, Postgraduate, A.ERDİŞ(Student), 2019  
BAKIR M. A., Graduate School Of Natural And Applied Sciences, Postgraduate, B.YILMAZ(Student), 2019  
BAKIR M. A., Normal dağılmayan çok değişkenli süreç yeterlilik indeksi için bir yöntem önerisi: KMH yöntemi, Doctorate, B.DARENDE(Student), 2019  
BAKIR M. A., Mode mixing problem in empirical mode decomposition, Postgraduate, M.I(Student), 2018  
BAKIR M. A., Analysing Persistence Of Subjective Poverty In Turkey Using Dynamic Panel Data Models, Doctorate, P.YAVUZKANAT(Student), 2017  
BAKIR M. A., Artificial Neural Network Approach For The Problem Of Determining Variable(S) Causing To Signal In Multivariate Quality Control, Doctorate, Ö.SARIKAYA(Student), 2017  
BAKIR M. A., Markov Transition Matrix Based Seasonal Fuzzy Time Series, Doctorate, H.GÜNEY(Student), 2016  
BAKIR M. A., Nonparametric Bayesian Approach To Change Point Detection, Postgraduate, I.Nazif(Student), 2016  
BAKIR M. A., Determnation Of Structural Break Point In Panel Data, Doctorate, S.DAĞLIOĞLU(Student), 2016  
BAKIR M. A., Değişim noktasının belirlenmesine parametrik olmayan bayesgil yaklaşım, Postgraduate, I.NAZIF(Student), 2016  
BAKIR M. A., Performance evaluation of methods of structural breaks in linear regression models, Postgraduate, Z.ÖZDEMİR(Student), 2014  
BAKIR M. A., Detection of multiple outliers in logistic regression and examination of effectiveness, Postgraduate, M.SELÇUK(Student), 2011  
BAKIR M. A., Kamu kurumları bilgi işlem merkezlerinin veri-sistem güvenlik kalitesi bakımından durum tespiti ve bir güvenlik kalite sistem önerisi, Postgraduate, A.YILMAZ(Student), 2010  
BAKIR M. A., X ve R kontrol grafiklerinin çok amaçlı ekonomik tasarımının genetik algoritmalar yaklaşımıyla

optimizasyonu, Postgraduate, B.ALTUNKAYNAK(Student), 2001

BAKIR M. A., Kümeleme analizine fuzzy set teorisi yaklaşımı, Postgraduate, F.ŞAHİNLİ(Student), 1999

BAKIR M. A., Çok değişkenli kalite kontrol problemlerinin çözümüne ilişkin yaklaşımlar, Postgraduate, S.KARACA(Student), 1999

## Jury Memberships

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Gazi Üniversitesi, November, 2022

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Orta Doğu Teknik Üniversitesi, October, 2022

Associate Professor Exam, Associate Professor Exam, Gazi Üniversitesi, October, 2022

Doctorate, Doctorate, Gazi Üniversitesi, August, 2022

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Orta Doğu Teknik Üniversitesi, July, 2022

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Orta Doğu Teknik Üniversitesi, July, 2022

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Orta Doğu Teknik Üniversitesi, June, 2022

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Gazi Üniversitesi, June, 2022

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Orta Doğu Teknik Üniversitesi, June, 2022

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Muğla Sıtkı Koçman Üniversitesi, February, 2022

Associate Professor Exam, Associate Professor Exam, Dicle Üniversitesi, January, 2022

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Gazi Üniversitesi, November, 2021

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Dokuz Eylül Üniversitesi, March, 2014

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

- I. **A novel hybrid ICA-SVM method for detection and identification of shift in multivariate processes**  
Güler Z. Ö., Bakır M. A., Kardiyen F.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.53, no.2, pp.1-21, 2024 (SCI-Expanded)
- II. **A new approach using probabilistic outputs of support vector machine for identification of mean shift in multivariate processes Destek vektör makinesi ile elde edilen olasılık çıktılarına dayalı yeni bir istatistiksel süreç izleme yöntemi**  
Güler Z. Ö., BAKIR M. A., KARDİYEN F.  
Journal of the Faculty of Engineering and Architecture of Gazi University, vol.39, no.2, pp.1099-1112, 2024 (SCI-Expanded)
- III. **Detection and identification of mean shift using independent component analysis in multivariate processes**  
Guler Z. O., BAKIR M. A.  
JOURNAL OF STATISTICAL COMPUTATION AND SIMULATION, vol.92, no.9, pp.1920-1940, 2022 (SCI-Expanded)
- IV. **A method for detection of Mode-Mixing problem**  
Erdiş A., Bakır M. A., I. Jaiteh M.  
JOURNAL OF APPLIED STATISTICS, vol.48, no.13-15, pp.2847-2863, 2021 (SCI-Expanded)
- V. **Morphometric analysis of pterygomaxillary region by using cone beam computed tomography**  
Odabaşı O., Erkmen E., Özlem Üçok C., Bakır M. A., Yıldızker Keriş E., Şahin O.  
JOURNAL OF STOMATOLOGY ORAL AND MAXILLOFACIAL SURGERY, vol.122, no.3, pp.273-277, 2021 (SCI-Expanded)
- VI. **A Novel Stochastic Seasonal Fuzzy Time Series Forecasting Model**  
GÜNEY H., BAKIR M. A., ALADAĞ Ç. H.  
INTERNATIONAL JOURNAL OF FUZZY SYSTEMS, vol.20, no.3, pp.729-740, 2018 (SCI-Expanded)

- VII. **State Dependence in Poverty: The Case of Turkey**  
YILDIRIM ÖCAL J., BAKIR M. A., Savas A.  
EMERGING MARKETS FINANCE AND TRADE, vol.54, no.9, pp.1963-1972, 2018 (SSCI)
- VIII. **Nonparametric Bayesian approach to the detection of change point in statistical process control**  
Suleiman I. N., BAKIR M. A.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.46, no.3, pp.525-545, 2017 (SCI-Expanded)
- IX. **A 0-1 INTEGER PROGRAMMING APPROACH TO A UNIVERSITY TIMETABLING PROBLEM**  
BAKIR M. A., Aksop C.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.37, no.1, pp.41-55, 2008 (SCI-Expanded)
- X. **The optimization with the genetic algorithm approach of the multi-objective, joint economical design of the (x)over-bar and R control charts**  
Bakir M. A., ALTUNKAYNAK B.  
JOURNAL OF APPLIED STATISTICS, vol.31, no.7, pp.753-772, 2004 (SCI-Expanded)
- XI. **Production planning using a hybrid simulation - analytical approach**  
Byrne M., Bakir M. A.  
INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS, vol.59, pp.305-311, 1999 (SCI-Expanded)
- XII. **Stochastic linear optimisation of an MPMP production planning model**  
Bakir M. A., Byrne M.  
INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS, vol.55, no.1, pp.87-96, 1998 (SCI-Expanded)
- XIII. **AN APPLICATION OF THE MULTISTAGE MONTE-CARLO OPTIMIZATION ALGORITHM TO AGGREGATE PRODUCTION PLANNING**  
BAKIR M. A., BYRNE M.  
INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS, vol.35, pp.207-213, 1994 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Detecting Financial Failure in the Machinery and Equipment Manufacturing Sector Using Isolation Forest and Resampling Methods**  
ERDEM K. Ş., BAKIR M. A.  
Verimlilik Dergisi, vol.57, no.4, pp.719-734, 2023 (Peer-Reviewed Journal)
- II. **DETERMINANTS OF IMPULSIVE BUYING BEHAVIOUR AND A MODEL PROPOSAL**  
KURT S., KARDİYEN F., BAKIR M. A.  
Uluslararası Yönetim İktisat ve İşletme Dergisi, vol.18, no.3, pp.875-894, 2022 (Peer-Reviewed Journal)
- III. **An evaluation of some methods used for determination of homogenous structural break point in mean of panel data**  
Daglioglu S., BAKIR M. A.  
Communications Faculty Of Science University of Ankara Series A1Mathematics and Statistics, no.1, pp.717-738, 2020 (ESCI)
- IV. **Signal Detection Based on Independent Components in Multivariate Statistical Quality Control**  
ÖZDEMİR GÜLER Z., BAKIR M. A.  
Econometrics Letters, vol.5, no.2, pp.14-24, 2019 (Peer-Reviewed Journal)
- V. **Performance of Methods Determining Structural Break in Linear Regression Models**  
ÖZDEMİR GÜLER Z., BAKIR M. A.  
International Econometric Review, vol.11, no.2, pp.70-83, 2019 (Peer-Reviewed Journal)
- VI. **Monte Carlo Evaluation of the Methods Estimating Structural Change Point in Panel Data**  
DAĞLIOĞLU S., BAKIR M. A.  
Sakarya University Journal of Science, vol.23, no.3, pp.340-357, 2019 (Peer-Reviewed Journal)
- VII. **Rally length and rest time in women's volleyball**  
Altundağ E., Ün Yıldırım N., Bakır M. A.  
INTERNATIONAL JOURNAL OF APPLIED EXERCISE PHYSIOLOGY, vol.8, pp.84-90, 2019 (Peer-Reviewed Journal)

- VIII. **Sosyal Konut Uygulamaları ve Sosyal Dışlanma Toplu Konut İdaresi Yoksul Konutları Örneği**  
BEŞİRLİ H., BAKIR M. A., KOÇANCI M., ÖZDEMİR GÜLER Z., YALÇINKAYA GÜLLE M.  
Manas Sosyal Araştırmalar Dergisi, 2016 (Peer-Reviewed Journal)
- IX. **Türkiye’de asgari ücretin istihdam üzerindeki etkisinin sektörel panel regresyon modelleri ile incelenmesi**  
DAĞLIOĞLU S., BAKIR M. A.  
Sosyal Güvence Dergisi, no.8, pp.35-68, 2015 (Peer-Reviewed Journal)
- X. **Modeling of capacity utilization ratio with fuzzy time series based on Markov transition matrix**  
GÜNEY H., BAKIR M. A.  
Commun.Fac.Sci.Univ.Ank.Series A1, vol.64, no.2, pp.63-75, 2015 (Peer-Reviewed Journal)

## Books

- I. **Olasılık Teorisi ve R Uygulamaları**  
BAKIR M. A.  
UDA Danışmanlık, Ankara, 2020
- II. **Sosyal Konut Uygulamaları ve Yoksulluğun Yönetimi Üzerine Ampirik Bir Çalışma**  
BEŞİRLİ H., KOÇANCI M., BAKIR M. A., ÖZDEMİR GÜLER Z., YALÇINKAYA GÜLLE M.  
Siyasal Kitabevi, 2016
- III. **İSTATİSTİK**  
BAKIR M. A., AYDIN C.  
Nobel Yayınevi, Ankara, 2006
- IV. **Tamsayı Programlama Teori, Modeller ve Algoritmalar**  
BAKIR M. A., ALTUNKAYNAK B.  
Nobel, 2003
- V. **Tamsayı Programlama: Teori, Modeller ve Algoritmalar**  
BAKIR M. A., ALTUNKAYNAK B.  
Nobel, Ankara, 2003

## Papers Published in Refereed Scientific Meetings

- I. **Independent component analysis approach for monitoring multivariate process control**  
ÖZDEMİR GÜLER Z., BAKIR M. A.  
20th International Symposium on Econometrics, Operations Research and Statistics, Ankara, Turkey, 12 - 14 February 2020
- II. **Statistical process control in zero-inflated poisson process**  
KARAGÖZ S. N., BAKIR M. A.  
20th International Symposium on Econometrics, Operations Research and Statistics, Ankara, Turkey, 12 - 14 February 2020
- III. **Independent Component Analysis Approach for Monitoring Multivariate Process Control**  
ÖZDEMİR GÜLER Z., BAKIR M. A.  
20th International Symposium on Econometrics, Operations Research and Statistics, 12 - 14 February 2020
- IV. **Normal Values of Head Circumference in Children**  
UYGUN S. S., BAKIR M. A., YAVUZ H.  
1st International Rumi Pediatric Congress, 4 - 07 December 2019
- V. **A Satellite Images Based Sampling Approach in An African City**  
ŞAHİN B. S., DEMİRBÜKEN H., BAKIR M. A.  
11. ISC2019 International Statistics Congress, BODRUM, Turkey, 4 - 08 October 2019, pp.559-574
- VI. **Detection of Mode-Mixing Problem in EMD of Time Series Signal Data**

- ERDİŞ A., BAKIR M. A., Jaiteh M. I.  
11. ISC2019 International Statistics Congress, BODRUM, Turkey, 4 - 08 October 2019, pp.237
- VII. **MODE MIXING IN EMPIRICAL MODE DECOMPOSITION (EMD)**  
Jaiteh M. I., ERDİŞ A., BAKIR M. A.  
4. International Researchers Statisticians and Young Statisticians Congress, İzmir, Turkey, 28 - 30 April 2018
- VIII. **SHIFT DETECTION IN MULTIVARIATE PROCESS CONTROL USING BLIND SIGNAL SEPARATION**  
ÖZDEMİR GÜLER Z., BAKIR M. A.  
COSTAS 2017, 9 - 11 November 2017
- IX. **Akademik İstatistiksel Danışmanlık Merkezleri Üzerine Bir İnceleme ve Model Önerisi**  
ÇELİK B., BAKIR M. A., ATA M. Y.  
XIX. Ulusal ve II. Uluslararası Biyoistatistik Kongresi, Antalya, Turkey, 25 - 28 October 2017
- X. **Müzik Eseri Hırsızlığı Sorununa İstatistiksel Yaklaşım**  
ERDİŞ A., KARDİYEN F., BAKIR M. A.  
18. Uluslararası Ekonometri, Yöneylem Araştırması ve İstatistik Sempozyumu, 5 - 07 October 2017
- XI. **METHODOLOGICAL ADVANTAGES OF ARTIFICIAL NEURAL NETWORKS FOR CLASSIFICATION**  
SARIKAYA Ö., BAKIR M. A.  
International Conference on Science and Education, 26 - 29 October 2017
- XII. **Mekanda Kadın Erkek Farklılaşması: Yoksul Sosyal Konutlar Örneği**  
KOÇANCI M., BEŞİRLİ H., BAKIR M. A., ÖZDEMİR GÜLER Z.  
Innovation and Global Issues in Social Sciences, Antalya, Turkey, 27 - 29 April 2017, pp.754-757
- XIII. **MSEC Control Charts for Monitoring both Small and Large Shifts**  
YILMAZ B., ÖZDEMİR GÜLER Z., BAKIR M. A.  
3rd International Researchers, Statisticians and Young Statisticians Congress 2017, 24 - 26 May 2017
- XIV. **Interpreting Out of Control Signals in Multivariate Processes Using Artificial Neural Network**  
SARIKAYA Ö., BAKIR M. A.  
2nd International Congress On The World Of Technology And Advanced Materials, 28 September - 02 October 2016
- XV. **Diagnosing the Source of Variance Shifts in Multivariate Processes An Artificial Neural Network Approach**  
SARIKAYA Ö., BAKIR M. A.  
2nd International Congress On The World Of Technology And Advanced Materials, 28 September - 02 October 2016
- XVI. **Poverty Dynamics in Turkey**  
Yıldırım J., BAKIR M. A., Yavuzkanat P., Ortakaya F.  
EuroConference 2016, 29 June - 01 July 2016
- XVII. **Bayesian nonparametric approach to change point detection**  
BAKIR M. A., SULEİMAN I. N.  
2nd International Researchers Statisticians and Young Statisticians Congress, 4 - 08 May 2016
- XVIII. **An Artificial Neural Network Approach to Detect the Sources of Out Of Control Signals in Multivariate Control Charts**  
SARIKAYA Ö., BAKIR M. A.  
2nd International Researchers Statisticians and Young Statisticians Congress, 4 - 08 May 2016

## Activities in Scientific Journals

Sosyal Güvence, Evaluation Committee Member, 2016 - Continues

## Memberships / Tasks in Scientific Organizations

BİDEP (Scientific Support Programs), Member of Advisory Board, 2021 - Continues, Turkey  
TURKISH STATISTICS ASSOCIATION, Member, 1997 - Continues, Turkey

## **Peer Reviews in Scientific Publications**

Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, National Scientific Refreed Journal, August 2022  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, Journal Indexed in SCI-E, June 2022

## **Scientific Project Refereeing**

TUBITAK Project, 2237 - Program for Supporting Project Training Activities, July 2021  
TUBITAK Project, 2237 - Program for Supporting Project Training Activities, May 2021  
TUBITAK Project, 2237 - Program for Supporting Project Training Activities, June 2020  
TUBITAK Project, 2237 - Program for Supporting Project Training Activities, June 2020  
TUBITAK Project, 2237 - Program for Supporting Project Training Activities, May 2020  
TUBITAK Project, 2237 - Program for Supporting Project Training Activities, May 2020

## **Metrics**

Publication: 47  
Citation (WoS): 226  
Citation (Scopus): 252  
H-Index (WoS): 5  
H-Index (Scopus): 5

## **Non Academic Experience**

Başbakanlık, Başbakanlık Müşaviri  
Türkiye İstatistik Kurumu, Başkan  
Türkiye İstatistik Kurumu, Başkan Yardımcısı  
Devlet İstatistik Enstitüsü (TÜİK), İstatistikçi