

## Assoc. Prof. ESİN KÖKSAL BABACAN

### Personal Information

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### International Researcher IDs

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Yoksis Researcher ID: 24542

### Education Information

Post Doctorate, George Washington University, School of Engineering and Applied Science, Elctrical Engineering, United States Of America 2014 - 2015

Doctorate, Ankara University, Fen Fakültesi, İstatistik Bölümü, Turkey 2003 - 2009

Postgraduate, Ankara University, Fen Fakültesi, İstatistik Bölümü, Turkey 2000 - 2003

Undergraduate, Ankara University, Fen Fakültesi, İstatistik Bölümü, Turkey 1996 - 2000

### Certificates, Courses and Trainings

Vocational Training, Nitel Araştırma Yöntemleri Eğitimi , Ankara Üniversitesi, 2023

Occupational Health and Safety, İş Sağlığı ve Güvenliği Temel Eğitim Programı, Ankara Üniversitesi, 2022

Vocational Training, Online Öğretici Sertifika Programı, Ankara Üniversitesi, 2020

Vocational Training, Ulusal ve Uluslararası Proje Hazırlama Eğitimi, Ankara Üniversitesi, 2018

Vocational Training, Öğretim Üyeleri için Eğiticilerin Eğitimi Sertifika Programı,, Ankara Üniversitesi, 2017

Occupational Health and Safety, İş Sağlığı ve Güvenliği Eğitim Programı, Ankara Üniversitesi, 2015

Vocational Training, Lecture Series on Multisensor Fusion: Advanced Methodology and Applications, The Scientific and Technological Research Council of Trukey, 2011

### Dissertations

Doctorate, Kısıtlı durum kalman filtresi ve bazı uygulamaları, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2009

Postgraduate, Yoğunlaşma ve seyrelme fonksiyonları ile hipotez testi, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2003

### Research Areas

Statistics, Natural Sciences

### Academic Titles / Tasks

Associate Professor, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2017 - Continues

Assistant Professor, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2013 - 2017

Lecturer, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2011 - 2013

Research Assistant, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2002 - 2010

## Academic and Administrative Experience

Head of Department, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2019 - Continues

Member of Department FEDEK Commission, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2019 - Continues

Uyum Komisyonu Üyesi, Ankara University, Fen Fakültesi, İstatistik Bölümü, 2022 - 2023

Ankara University, 2013 - 2017

Ankara University, 2013 - 2014

## Courses

Statistical Computing, Undergraduate, 2022 - 2023

Bilgisayar Programlama III, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021

Special Topic, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022

Special Topic, Undergraduate, 2022 - 2023, 2021 - 2022

İstatistiki Sistem Analizi ve Kontrol, Doctorate, 2022 - 2023

İst-533 Bayesci İstatistik, Postgraduate, 2023 - 2024, 2021 - 2022, 2018 - 2019, 2016 - 2017

Computer Programming IV, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020

İST-318 YAŞAM BİLİMLERİNDE İSTATİSTİK, Undergraduate, 2017 - 2018, 2013 - 2014

İst 225 İstatistik I, Undergraduate, 2016 - 2017

İst-509 İstatistik Hesaplama, Postgraduate, 2014 - 2015

Dis-161 Biyoistatistik, Undergraduate, 2013 - 2014

İst-140 Biyoistatistik, Undergraduate, 2013 - 2014

KYM-251 OLASILIK VE İSTATİSTİK, Undergraduate, 2013 - 2014

## Advising Theses

Köksal Babacan E., Stock Selection with Machine Learning Methods and the Role of Financial Variables, Postgraduate, T.Ant(Student), Continues

Köksal Babacan E., Parameter Estimation in dynamic models, Postgraduate, C.DARICI(Student), 2022

Köksal Babacan E., KÜMELEME ANALİZİ YÖNTEMLERİ İLE COVID-19 VERİLERİNİN İNCELENMESİ, Postgraduate, E.SEREN(Student), 2022

Köksal Babacan E., Doğrusal olmayan regresyon modellerinde parametre tahmin yöntemleri ve uygulamaları üzerine bir çalışma, Postgraduate, U.DEMİR(Student), 2022

Köksal Babacan E., Birnbaum-saunders dağılımının parametrelerinin Bayesci yöntemle tahmini, Postgraduate, S.KAYA(Student), 2022

Köksal Babacan E., BAYESCİ OTOREGRESİF ZAMAN SERİLERİNDE ÖNSEL DAĞILIMLARIN SEÇİMİ VE KARŞILAŞTIRILMASI, Postgraduate, M.GAZİOĞULLARI(Student), 2022

KÖKSAL BABACAN E., Parameter estimation of the weibull distribution by bayesian method, Postgraduate, Y.KOÇ(Student), 2020

KÖKSAL BABACAN E., A study on bayesian hypothesis testing and applications, Postgraduate, T.KARACAOĞLU(Student), 2020

KÖKSAL BABACAN E., Parameter estimation of the inverse Weibull distribution by Bayesian method, Postgraduate, İ.BÜŞRA(Student), 2019

## Jury Memberships

Post Graduate, Post Graduate, Kırıkkale Üniversitesi, June, 2022

Post Graduate, Post Graduate, Ankara Üniversitesi, January, 2022

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

- I. **Stability of the adaptive fading extended Kalman filter with the matrix forgetting factor**  
Biçer C., Babacan E., ÖZBEK L.  
Turkish Journal of Electrical Engineering and Computer Sciences, vol.20, no.5, pp.819-833, 2012 (SCI-Expanded)
- II. **ONLINE ESTIMATION OF CAPILLARY PERMEABILITY AND CONTRAST AGENT CONCENTRATION IN RAT TUMORS**  
Özbek L., Efe M., Köksal Babacan E., Yazıhan N.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.39, no.2, pp.283-293, 2010 (SCI-Expanded)
- III. **Stochastic stability of the discrete-time constrained extended Kalman filter**  
ÖZBEK L., KÖKSAL BABACAN E., EFE M.  
Turkish Journal of Electrical Engineering and Computer Sciences, vol.18, no.2, pp.211-223, 2010 (SCI-Expanded)
- IV. **Stability of the Extended Kalman Filter When the States are Constrained**  
KÖKSAL BABACAN E., ÖZBEK L., EFE M.  
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, vol.53, no.11, pp.2707-2711, 2008 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Bayesian estimation of inverse weibull distribution scale parameter under the different loss functions**  
KÖKSAL BABACAN E.  
Sigma Journal of Engineering and Natural Sciences, vol.42, no.4, pp.1108-1115, 2024 (ESCI)
- II. **Tobit modeline bayesci yaklaşım ve winBUGS ile uygulama**  
Kaya S., KÖKSAL BABACAN E.  
Gümüşhane Üniversitesi Fen Bilimleri Dergisi, vol.12, no.1, 2022 (Peer-Reviewed Journal)
- III. **Bayesci Yaklaşım ile Regresyon Modellerinde Parametre Tahmini**  
Kaya S., Köksal Babacan E.  
Karadeniz Fen Bilimleri Dergisi, vol.11, no.2, pp.439-462, 2021 (Peer-Reviewed Journal)
- IV. **COMPARISON OF PARAMETER ESTIMATION METHODS IN WEIBULL DISTRIBUTION**  
Köksal Babacan E., Kaya S.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.38, no.3, pp.1609-1621, 2020 (ESCI)
- V. **A SIMULATION STUDY OF THE BAYES ESTIMATOR FOR PARAMETERS IN WEIBULL DISTRIBUTION**  
KÖKSAL BABACAN E., Kaya S.  
COMMUNICATIONS FACULTY OF SCIENCES UNIVERSITY OF ANKARA-SERIES A1 MATHEMATICS AND STATISTICS, vol.68, no.2, pp.1664-1674, 2019 (ESCI)
- VI. **Bayes Ağları-K2 Algoritması Üzerine Bir Çalışma**  
Köksal Babacan E., Karaduman M. Ö.  
Karadeniz Fen Bilimleri Dergisi, vol.8, no.2, pp.24-38, 2018 (Peer-Reviewed Journal)
- VII. **MODIFIED UNSCENTED KALMAN FILTER FOR NONLINEAR SYSTEMS HAVING LINEAR SUBSYSTEMS**  
Babacan E., Doroslovacki M. I., Ozbek L.  
COMMUNICATIONS FACULTY OF SCIENCES UNIVERSITY OF ANKARA-SERIES A1 MATHEMATICS AND STATISTICS, vol.64, no.2, pp.89-98, 2015 (ESCI)
- VIII. **ESTIMATION OF TIME VARYING PARAMETERS IN AN OPTIMAL CONTROL PROBLEM**

Ozbek L., Babacan E.

COMMUNICATIONS FACULTY OF SCIENCES UNIVERSITY OF ANKARA-SERIES A1 MATHEMATICS AND STATISTICS, vol.64, no.2, pp.111-121, 2015 (ESCI)

- IX. **Matris Unutma Faktörü İle Uyarlanmış Kalman Filtresinin Başarım Değerlendirmesi**  
BİÇER C., KÖKSAL BABACAN E., ÖZBEK L.  
Fırat Üniversitesi Fen Bilimleri Dergisi,, vol.25, no.1, pp.71-76, 2013 (Peer-Reviewed Journal)
- X. **Uyarlı kokusuz Kalman Filtresi**  
Köksal Babacan E., Özbek L., Biçer C.  
Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.13, no.1, pp.59-67, 2011 (Peer-Reviewed Journal)
- XI. **Lineer Regülatör Parametrelerinin Kalman Filtresi Kullanılarak En çok olabilirlik Yöntemiyle Tahmini**  
KÖKSAL BABACAN E., ÖZBEK L.  
Selçuk Üniversitesi Fen Edebiyat Fakültesi Fen Dergisi, no.34, pp.93-100, 2009 (Peer-Reviewed Journal)
- XII. **Armax Modellerinde Parametre Tahmini ve Kontrol**  
KÖKSAL BABACAN E., ÖZTÜRK F.  
İstatistik Araştırma Dergisi, vol.3, no.2, pp.73-87, 2004 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **A Study on the Comparison of the Parameter Estimation Methods in the Birnbaum-Saunders Distribution**  
Kaya S., Köksal Babacan E.  
in: Current Debates on Natural and Engineering Sciences 9 , İshak Parlar,Hasan Üzmüş,Hikmet Y. Çoğun, Editor, Bilgin Kültür Sanat Yayınevi, Ankara, pp.40-50, 2023
- II. **Parameter Estimation of Nonlinear Response Surface Models by Using Genetic Algorithm and Unscented Kalman Filter**  
TÜRKŞEN Ö., KÖKSAL BABACAN E.  
in: Chaos Complexity and Leadership 2014, Ş.Ş. Erçetin, Editor, Springer, pp.393-401, 2016
- III. **Algoritma Tasarımına Giriş Bazı Matematiksel ve İstatistiksel Uygulamalar**  
Özbek L., Köksal Babacan E., Başkır M. B.  
Gazi Kitabevi, Ankara, 2010

## Refereed Congress / Symposium Publications in Proceedings

- I. **Statistical Inference for a New Alpha Power Topp Leone Distribution**  
Köksal Babacan E., Kaya S.  
International E-Conference on Mathematical and Statistical Sciences: A Selçuk Meeting, Konya, Turkey, 5 - 07 June 2023, pp.130
- II. **A Study on Comparison of Parameter Estimation for the Exponentiated Weibull Distribution**  
Köksal Babacan E.  
II. International Agricultural, Biological &Life Science Conference, Edirne, Turkey, 1 - 03 September 2020, pp.569
- III. **Bayesian Inference for Tobit Model and an Application Using with Winbugs Program**  
KAYA S., KÖKSAL BABACAN E.  
11th International Statistics Congress, ISC2019, 4 - 08 October 2019
- IV. **Bayesian Approach to Time Series and a Application**  
KÖKSAL BABACAN E., Gazioğulları M.  
4th International Science Symposium, 4 - 06 September 2019
- V. **ZAMAN SERİSİ ANALİZ VE EVIEWS PROGRAMINDA BİR UYGULAMA**  
Kaya S., KÖKSAL BABACAN E.  
ULUSLARARASI ÖĞRENCİMULTİDİSİPLİNER AKADEMİK ÇALIŞMALARI KONGRESİ, Ankara, Turkey, 29 - 30

November 2018, vol.1, pp.380

- VI. **REGRESYON PARAMETRELERİNİN KLASİK VE BAYESCİ YÖNTEMLERLE TAHMİNİ VE KARŞILAŞTIRMASI ÜZERİNE BİR ÇALIŞMA**  
KÖKSAL BABACAN E., Kaya S.  
ULUSLARARASI ÖĞRENCİMULTİDİSİPLİNER AKADEMİK ÇALIŞMALAR KONGRESİ, Ankara, Turkey, 29 November - 30 October 2018, vol.1, pp.51-59
- VII. **Big Data Data Minig Application**  
Kaya S., KÖKSAL BABACAN E.  
3rd International Conference on Advances in Natural and Applied Sciences, 9 - 12 May 2018
- VIII. **A Simulation Study of the Bayes Estimator of Parameters in Weibull Distribution**  
KÖKSAL BABACAN E., Kaya S.  
3rd International Conference on Advances in Natural and Applied Sciences, 9 - 12 May 2018
- IX. **Parameter Estimation of Nonlinear Response Surface Models by Using Genetic Algorithm and Unscented Kalman Filter**  
TÜRKŞEN Ö., KÖKSAL BABACAN E.  
2nd International Symposium on Chaos, Complexity and Leadership, 17 - 19 December 2013
- X. **Poisson Regression Analysis in the Presence of Measurement Error**  
Dağalp R., Türkşen Ö., Köksal Babacan E.  
2nd International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2013), Sarajevo, Bosnia And Herzegovina, 26 - 29 August 2013, pp.341-342
- XI. **Poisson Regression Analysis in the Presence of Measurement Error**  
Dağalp R., Türkşen Ö., Köksal Babacan E.  
2nd International Eurasian Conference on Mathematics Sciences and Applications (IECMSA-2013), Sarajevo, Bosnia And Herzegovina, 26 - 29 August 2013, pp.341
- XII. **Uyarlı Kokusuz Kalman Filtresi**  
KÖKSAL BABACAN E., ÖZBEK L., BİÇER C.  
Uluslararası 7. İstatistik Kongresi, Antalya, Turkey, 28 April - 01 May 2011
- XIII. **Uyarlı Kalman Filtresi ile GPS Tabanlı Navigasyon**  
BİÇER C., ÖZBEK L., KÖKSAL BABACAN E.  
Uluslararası 7. İstatistik Kongresi, Antalya, Turkey, 28 - 01 May 2011
- XIV. **Kesintili Gözlemler ile Uyarlı Kalman Filtresi**  
BİÇER C., KÖKSAL BABACAN E.  
Uluslararası 7. İstatistik Kongresi, Antalya, Turkey, 28 April - 01 May 2011
- XV. **Uyarlı İki Aşamalı Kalman Filtresi**  
BİÇER C., ÖZBEK L., KÖKSAL BABACAN E.  
Uluslararası 7. İstatistik Kongresi, Antalya, Turkey, 28 - 01 May 2011
- XVI. **Kısıtlı Durum Kalman Filtresi**  
KÖKSAL BABACAN E., ÖZBEK L.  
5. İstatistik Günleri Sempozyumu, Antalya, Turkey, 24 - 27 May 2006, pp.117-122
- XVII. **Kesikli Zaman Deterministik Durum Uzay Modellerinde İlerletilmiş Kalman Filtresinin Yakınsaması**  
KÖKSAL BABACAN E., ÖZBEK L.  
5. İstatistik Günleri Sempozyumu, Antalya, Turkey, 24 - 27 May 2006, pp.239-244
- XVIII. **Tümör Hücrelerinin Kılcal Damarlardan Geçirgenliğinin Online Tahmini**  
ÖZBEK L., EFE M., YAZIHAN N., KÖKSAL BABACAN E.  
5. İstatistik Günleri Sempozyumu, Antalya, Turkey, 24 - 27 May 2006, pp.254-260
- XIX. **İlerletilmiş Kalman Filtresi ve Bir Düzenlemesi**  
KÖKSAL BABACAN E., ÖZBEK L., ÖZTÜRK F.  
4. İstatistik Kongresi, Ankara, Turkey, 8 - 12 May 2005, pp.233-238
- XX. **Yoğunlaşma ve Seyrelme Fonksiyonları ile Hipotez Testi**  
KÖKSAL BABACAN E.  
VI. Ulusal Ekonometri ve İstatistik Sempozyumu, Ankara, Turkey, 29 - 30 May 2003, pp.1-8

## Supported Projects

Köksal Babacan E., Özbek L., TUBITAK Project, İstatistiğe Giriş-1, 2015 - 2017

Köksal Babacan E., Özbek L., TUBITAK Project, İSTATİSTİĞE GİRİŞ 2, 2015 - 2016

## Scientific Refereeing

Çankırı Karatekin Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, National Scientific Refreed Journal, July 2021  
Communications Faculty Of Sciences University Of Ankara, Series A1, Mathematics And Statistic, Journal Indexed in ESCI,  
April 2019

SAKARYA UNIVERSITY JOURNAL OF SCIENCE, National Scientific Refreed Journal, April 2019

SAKARYA UNIVERSITY JOURNAL OF SCIENCE, National Scientific Refreed Journal, October 2018

AUTOMATICA, SCI Journal, April 2018

IEEE Transactions On Aerospace And Electronic Systems , SCI Journal, June 2017

Electrical Engineering And Computer Sciences , SCI Journal, March 2014

The IEEE Control Systems Society Conference Management System, SCI Journal, March 2013

scientica Iranica, Journal Indexed in SCI-E, February 2013

## Metrics

Publication: 39

Citation (WoS): 27

Citation (Scopus): 53

H-Index (WoS): 3

H-Index (Scopus): 4

## Scholarships

2013 Yılı 2219-Yurt Dışı Doktora Sonrası Araştırma Burs Programı 2. Dönem, University, 2014 - 2015