Prof. DURSUN ÜSTÜNDAĞ

Personal Information

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International Researcher IDs

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ORCID: 0000-0001-8932-3700

Publons / Web Of Science ResearcherID: B-2424-2008

ScopusID: 6506624806

Yoksis Researcher ID: 111201

Biography

Dursun Ustundag was graduated from the Technical university of Istanbul as a mathematical engineering. During his undergraduate studies, he was supported financially by Turkish Scientific research Council (TUBITAK). After he was graduated from the university, he got a grant from Turkish Ministry of Education to do PhD study in mathematics in Great Britain. He had stayed there since he was awarded a Ph.D. degree from the University of Birmingham, where he investigated image reconstruction methods based on maximum entropy principle and applied them to data taken from X-ray telescopes and positron emission camera. He has been in Marmara University as a member of staff since 1994, originally in the department of Mathematical Education, and later in the department of Mathematics as a member of the applied mathematics group.

Education Information

Doctorate, University of Birmingham, School Of Mathematics And Statistics , Applied mathematics, United Kingdom 1988 - 1992

Postgraduate, The University of Birmingham, School Of Mathematics And Statistics, United Kingdom 1986 - 1988

Undergraduate, Istanbul Technical University, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey 1980 - 1984

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, An Investigation of Image Reconstruction Methods and Their Applications, University Of Birmingham, School Of Mathematics And Statistics , 1992

Research Areas

Health Sciences, Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Professor, Marmara University, Faculty of Arts and Sciences, Mathematics, 2019 - Continues
Associate Professor, Marmara University, Faculty of Arts and Sciences, Mathematics, 2012 - 2019
Assistant Professor, Marmara University, Faculty of Arts and Sciences, Mathematics, 1994 - 2012

Academic and Administrative Experience

Deputy Head of Department, Marmara University, Ataturk Faculty of Education, 1997 - 1998

Courses

Doctorate
Bayesian Statistical Regression Analysis, Doctorate, 2018 - 2019
Postgraduate
Symbolic and Numerical Package Program, Postgraduate, 2018 - 2019
Advanced Programming Techniques, Postgraduate, 2019 - 2020
Computer Applied Mathematical Methods II, Postgraduate, 2017 - 2018
Computer Applied Mathematical Methods I, Postgraduate, 2017 - 2018
Symbolic Mathematical Calculation with Mathematica, Postgraduate, 2012 - 2013
Undergraduate
Computer Applications II, Undergraduate, 2017 - 2018
Probability, Undergraduate, 2017 - 2018
Nümerical Analysis, Undergraduate, 2017 - 2018
Computer Applications I, Undergraduate, 2017 - 2018
Inroduction To Numerical Analysis , Undergraduate, 2017 - 2018
Calculus , Undergraduate, 2014 - 2015

Supervised Theses

Üstündağ D., Joint Bayesian model selection and parametre estimation from noisy sinusoidal signals, Doctorate,
M.CEVRİ(Student), 2009
Üstündağ D., Bayes parametre kestirimi, Postgraduate, M.CEVRİ(Student), 2002
ÜSTÜNDAĞ D., Doğrusal olmayan integral denklemlerin çözüm tekniklerinin incelenmesi ve uygulamaları, Postgraduate,
E.Özbaşaran(Student), 2001
Üstündağ D., Doğrusal olmayan integral denklemlerin çözüm tekniklerinin in incelenmesi ve uygulamaları, Postgraduate,
E.ÖZBAŞARAN(Student), 2001
ÜSTÜNDAĞ D., Kısmi diferansiyel denklemlerin çözümlerinin analitik yöntemleri, Postgraduate, V.Akkaya(Student), 2000
Üstündağ D., Kısmi diferansiyel denklemlerin çözümünün analitik yöntemleri, Postgraduate, V.AKKAYA(Student), 2000

Jury Memberships

Post Graduate, Post Graduate, Marmara Üniversitesi, September, 2019
Doctorate, Doctorate, Marmara Üniversitesi, November, 2009
Post Graduate, Post Graduate, Marmara Üniversitesi, July, 2002
Post Graduate, Post Graduate, Marmara Üniversitesi, May, 2001
Post Graduate, Post Graduate, Marmara Üniversitesi, September, 2000

Designed Lessons

Doctorate

Üstündağ D., Bayesian Inference and Parameter Estimation I, Doctorate, 2008 - 2009

Üstündağ D., Bayesian Inference and Parameter Estimation II, Doctorate, 2008 - 2009

Postgraduate

Üstündağ D., Regulation of Inverse Problems, Postgraduate, 2001 - 2002

Undergraduate

Üstündağ D., Computer II, Undergraduate, 2009 - 2010

Üstündağ D., Computer I, Undergraduate, 2008 - 2009

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Recovering Images from PET Camera**
Üstündağ D.
ACTA PHYSICA POLONICA A, vol.132, no.3, pp.963-966, 2017 (SCI-Expanded)

II. **Prediction of the Probabilities of the Transmission of Genetic Traits within Bayesian Logical Inference**
Cevri M., Ustundag D.
ACTA PHYSICA POLONICA A, vol.130, no.1, pp.45-50, 2016 (SCI-Expanded)

III. **Comparison the two Methods for Solving Partial Differential Equations in Electric**
OYMAN SERTELLER N. F., ÜSTÜNDAĞ D.
Jokull, vol.65, pp.207-214, 2015 (SCI-Expanded)

IV. **Bayesian recovery of sinusoids from noisy data with parallel tempering**
Cevri M., Ustundag D.
IET SIGNAL PROCESSING, vol.6, pp.673-683, 2012 (SCI-Expanded)

Articles Published in Other Journals

I. **Teaching Electromagnetic Problems with mathematica**
OYMAN SERTELLER N. F., ÜSTÜNDAĞ D.
Spectrum(Educational Research Services), 2017 (Peer-Reviewed Journal)

II. **Numerical Solution of Energy Transmission Lines Equivalent Circuit Equations with Adomian Decomposition Method**
Oyman Serteller N. F., Üstündağ D.
Journal of Applied Nonlinear Dynamics, vol.1, no.5, pp.65-71, 2016 (Scopus)

III. **Numerical Solution of Energy Transmission Lines Equvalient circuit Equation With Adomian Decomposition Method**
OYMAN SERTELLER N. F., ÜSTÜNDAĞ D.
Journal of Applied Nonlinear of Dynamics, vol.5, no.1, pp.65-71, 2016 (Peer-Reviewed Journal)

IV. **Comparing Bayesian Methods for Estimating Parameters of Noisy Sinusoids**
Üstündağ D., Cevri M.
International Journal of Applied Mathematics and Informatics, vol.4, pp.123-134, 2013 (Peer-Reviewed Journal)

V. **RECOVERING SINUSOIDS FROM NOISY DATA USING BAYESIAN INFERENCE WITH SIMULATED ANNEALING**
Üstündağ D., Cevri M.
Mathematical and Computational Applications, vol.16, no.2, pp.382-391, 2011 (Peer-Reviewed Journal)

VI. **ESTIMATING PARAMETERS OF SINUSOIDS FROM NOISY DATA USING MAXIMUM LIKELIHOOD TOGETHER WITH MONTE-CARLO SIMULATIONS**

Üstündağ D.

Marmara Üniversitesi Fen Bilimler , vol.20, no.1, pp.13-24, 2008 (Peer-Reviewed Journal)

VII. **Retrieving Slowness Distribution of a Medium between Two Boreholes from First Arrival Traveltimes**
Üstündağ D.

INTERNATIONAL JOURNAL OF GEOLOGY, vol.2, no.1, pp.1, 2008 (Peer-Reviewed Journal)

VIII. **Estimating parameters of sinusoids from noisy data using bayesian inference with simulated annealing**
Üstündağ D., Cevri M.

WSEAS Transactions on Signal Processing, vol.8, no.4, pp.432-441, 2008 (Peer-Reviewed Journal)

IX. **Computational Techniques to Solve Electromagnetic Problems by Using FEM**
Oyman Serteller N. F., Üstündağ D.

WSEAS Transactions on Electronics, vol.5, no.5, pp.166-175, 2008 (Conference Book)

X. **Recovering Images from Traveltime Data**
Üstündağ D., Özbaşaran E.

Mathematical Computational Applications, vol.8, no.3, pp.95-102, 2003 (Peer-Reviewed Journal)

XI. **An Extension of Differential Equation Approach to MaxEnt Image Reconstruction**
Üstündağ D.

Marmara Üniversitesi Fen Bilimleri Dergisi, vol.1, no.15, pp.77-88, 1999 (Peer-Reviewed Journal)

XII. **Analysis of Real Coded Mask Telescope Images**
Üstündağ D.

Marmara Üniversitesi Fen Bilimleri Dergisi, vol.1, no.15, pp.69-75, 1999 (Peer-Reviewed Journal)

XIII. **2 NEW METHODS FOR RETRIEVING AN IMAGE FROM NOISY INCOMPLETE DATA AND COMPARISON WITH THE CAMBRIDGE MAXENT PACKAGE**
Üstündağ D., Queen N. M., Skinner G. K., Bowcock J. E.

2 NEW METHODS FOR RETRIEVING AN IMAGE FROM NOISY, INCOMPLETE DATA AND COMPARISON WITH THE CAMBRIDGE MAXENT PACKAGE, no.10, pp.295-301, 1991 (Conference Book)

Books

I. **Performance evaluation of Gibbs sampling for Bayesian extracting sinusoids**
Üstündağ D., Cevri M.

in: Computational problems in Engineering, Nikos Mastorakis and Valeri Mladebov, Editor, Springer, London/Berlin , London, pp.10-33, 2014

II. **Bayesian Recovery of Sinusoids with Simulated Annealing**
Üstündağ D., Cevri M.

in: SIMULATED ANNEALING ADVANCES APPLICATIONS AND HYBRIDIZATIONS, Marcos de Sales Guerra Tsuzuki, Editor, InTech, Rijeka, pp.67-91, 2012

III. **Mathematica ya Giriş**
ÜSTÜNDAĞ D.

Alfabe basın, İstanbul, 2005

Papers Published in Refereed Scientific Meetings

I. **Analysis of Positron Lifetime Spectra with Bayesian Inference**
ÜSTÜNDAĞ D., YAHŞİ U.

5th INTERNATIONAL CONFERENCE ON COMPUTATIONAL AND EXPERIMENTAL SCIENCE AND ENGINEERING (ICCESEN-2018), 12 - 16 October 2018

II. **Detecting noisy sinusoids and estimating their parameters in Bayesian framework**

ÜSTÜNDAĞ D.

5th INTERNATIONAL CONFERENCE ON COMPUTATIONAL AND EXPERIMENTAL SCIENCE AND ENGINEERING (ICCESEN-2018), 12 - 16 October 2018

III. **Analysis of Dynamic Behavior of Direct Current Motor with Electrical Braking Techniques**

OYMAN SERTELLER N. F., ÜSTÜNDAĞ D.

CHILEAN Conference on Electrical, Electronics Engineering, Information and Communication Technologies (CHILECON), Pucon, Chile, 18 - 20 October 2017

IV. **Clustering of Teucrium species regarding micromorphological characters**

Cevri M., Üstündağ D.

4th International Conference on Compational and Experimental Science and Engineering, Antalya, Turkey, 4 - 08 October 2017

V. **Clustering of Teucrium species regarding micromorphological characters**

ÜSTÜNDAĞ D., CEVRİ M.

ICCESEN-2017, 4 - 08 October 2017

VI. **Bilgisayar destekli matematik öğrenimi ve öğretimi**

ÜSTÜNDAĞ D.

III. Marmara Matematik Günleri (MMG2017), İstanbul, Turkey, 28 - 29 September 2017

VII. **Reconstruction of MaxEnt Images from PET CAMERA**

ÜSTÜNDAĞ D.

FIFTH INTERNATIONAL CONFERENCEON RADIATION AND APPLICATIONS IN VARIOUS FIELDS OF RESEARCH, Budva, KARADAĞ, 12 - 16 June 2017, vol.2, pp.217-221

VIII. **A Hybrid Algorithm for Solving Least Squares Optimization Problems**

ÜSTÜNDAĞ D.

3rd International Conference on Computational and expeimental Science and Engineering (ICCESEN-2016), Antalya, Turkey, 19 - 24 October 2016

IX. **RECOVERING IMAGES FROM PET CAMERA**

Üstündağ D.

3rd International Conference on Computational and experimental Science and Engineering (ICCESEN-2016), Antalya, Turkey, 19 - 24 October 2016

X. **Ters problemler ve uygulamaları**

ÜSTÜNDAĞ D.

2. Marmara Matematik Günleri, Turkey, 6 - 07 October 2016

XI. **Teaching Electromagnetic Problems with Mathematica**

OYMAN SERTELLER N. F., ÜSTÜNDAĞ D.

The 4th. world Congress on Education Research (WCER2016), 6 - 08 October 2016

XII. **Analysis of Positron Lifetime Spectra Using Bayesian Inference**

ÜSTÜNDAĞ D., CEVRİ M., YAHŞİ U.

The 2nd IET International Conference on Intelligent Signal Processing (ISP) 2015, London, Canada, 1 - 02 December 2015, pp.1-6

XIII. **Bayesian Predictions of Genetic Traits**

Cevri M., Üstündağ D.

ICCESEN 2015 - 2ND INTERNATIONAL CONFERENCE ON COMPUTATIONAL AND EXPERIMENTAL SCIENCE AND ENGINEERING, Antalya, Turkey, 14 - 19 October 2015

XIV. **Numerical Solution of Energy Transmission Lines Equivalent Circuit Equationswith Adomian Decomposition Method**

Oyman Serteller N. F., Üstündağ D.

The 3rd International Conference onComplex Dynamical Systems &Their Applications, Ankara, Turkey, 24 - 26 November 2014

XV. **Pedigree Analysis with Bayesian Logical Inference**

Cevri M., Üstündağ D., Karadağ B. T.

9 International Statistics DaySymposium ISDS2014, (İGS2014), Antalya, Turkey, 14 - 16 May 2014

XVI.   **Comparison of Bayesian Methods for Recovering Sinusoids**
ÜSTÜNDAĞ D., CEVRİ M.
the EUROPMENT conferences Systems, Signal Precssing and Informatics (SCSI 2013), Rhodes, Greece, 16 - 19 July
2013, pp.120-127

XVII.   **Performance analysis of Gibbs sampling for Bayesian extracting sinusoids**
CEVRİ M., ÜSTÜNDAĞ D.
the EUROPMENT conferences., Rhodes (Rodos) Island, Greece, 16 - 19 July 2013, pp.128-135

XVIII.   **Recovering sinusoids from data using bayesian inference with RJMCMC**
ÜSTÜNDAĞ D.
2011 Seventh International Conference on Natural Computation, Shanghai, China, China, 26 - 28 July 2011, vol.4,
pp.1877-1881

XIX.   **A Comparison of Parameter Estimation Methods Based on Bayesian Inference**
ÜSTÜNDAĞ D.
The International Conference On Applied Analysis And Algebra (Icaaa2011), İstanbul, Turkey, 1 - 03 May 2011

XX.   **Numerical Analysis of Electrical System on High Voltage Medium**
OYMAN SERTELLER N. F., ÜSTÜNDAĞ D.
the 16-th European Conference on Mathematics for Industry, 1 - 03 June 2010

XXI.   **Bayesian Estimation of Sinusoidal Signals via Parallel Tempering**
ÜSTÜNDAĞ D., CEVRİ M.
8th WSEAS International Conference on Signal Processing, İstanbul, Turkey, 30 May - 01 June 2009, pp.67-72

XXII.   **Joint Detection and Estimation of Noisy Sinusoids using Bayesian Inference with Reversible Jump**
MCMC Algorithm
ÜSTÜNDAĞ D.
Signal Processing sistems, İstanbul, Turkey, 30 May - 01 June 2009, pp.61-67

XXIII.   **Reconstruction of Slowness Distribution of a Medium between Two Boreholes from First Arrival**
Travel time Data
ÜSTÜNDAĞ D.
the 3rd IASME/WSEAS international Conference on Geology and Seismology (GES'xx09), Cambridge, Canada, 24 -
26 February 2009, pp.126-132

XXIV.   **Bayesian Parameter Estimation of Sinusoids with Simulated annealing**
ÜSTÜNDAĞ D., CEVRİ M.
8th Wseas International Conference on Signal Processing, Computational Geometry and Artificial Vision (ISCGAV
08), Rhodes, Greece, 20 - 22 August 2008, pp.106-112

XXV.   **Comparing program techniques in the solution of EM type problems using FEM**
Serteller N. F., ÜSTÜNDAĞ D.
6th WSEAS International Conference on Applied Electromagnetics, Wireless and Optical Communications,
Trondheim, Norway, 2 - 04 July 2008, pp.147-149

XXVI.   **Recovering Images from Seismic Data**
ÜSTÜNDAĞ D.
3rd international Conferences on Mathematical Computational Applications, Konya, Turkey, 4 - 06 September 2002

XXVII.   **Two New Methods and Comparison with the Cambridge MaxEnt Package**
ÜSTÜNDAĞ D., Queen N.
The Tenth International MaxEnt Workshop, Wyoming, United States Of America, 20 - 22 August 1990

XXVIII. **A Method for Retrieving Images from Noisy Incomplete Data**
ÜSTÜNDAĞ D., Queen N., Bowcock J.
Procedings of the Alvey Vision Conference 1989, Reading, United Kingdom, 25 - 28 September 1989, pp.239-245

Supported Projects

Üstündağ D., Project Supported by Higher Education Institutions, Positron Lifetime Spectrum Analysis with Bayesian

Statistical Inference, 2010 - 2019

Üstündağ D., Project Supported by Higher Education Institutions, RECONSTRUCTION OF MaxEnt IMAGES FROM PET CAMERA , 2017 - 2018

Üstündağ D., Project Supported by Higher Education Institutions, Bayes İstatistiksel Çıkarımla Pozitron Ömür Spektrum Analizi, 2015 - 2016

Üstündağ D., Project Supported by Higher Education Institutions, Comparing Bayesian Methods for Estimating. Parameters of Noisy Sinusoids, 2013 - 2013

Üstündağ D., Project Supported by Higher Education Institutions, Pedigree Analysis with Bayesian Logical Inference, 2012 - 2013

Üstündağ D., Project Supported by Higher Education Institutions, RJMCMC ile Bayes Çıkarımı Kullanarak Verilerden Sinüzoidalleri Tespit Etme, 2011 - 2012

Üstündağ D., Project Supported by Higher Education Institutions, İlk Ulaşan Seyahat Zaman Verilerinden İki Kuyu Arasında Kalan Yeraltının Yavaşlama Hız Dağılımının Yeniden Görüntüsünü Oluşturma , 2009 - 2010

Üstündağ D., Project Supported by Higher Education Institutions, Bayesian Model Selection and Parameter Estimation, 2007 - 2010

Üstündağ D., Project Supported by Higher Education Institutions, Bayesian Spectrum Estimation of Harmonic Signals, 2007 - 2009

Üstündağ D., Project Supported by Higher Education Institutions, Sismik seyahat zaman Tomografisi, 2001 - 2007

Activities in Scientific Journals

Iet Renewable Power Generation, Evaluation Committee Member, 2019 - Continues
Iet Image Processing, Evaluation Committee Member, 2018 - Continues
Iet Signal Processing, Evaluation Committee Member, 2013 - Continues

Memberships / Tasks in Scientific Organizations

Researcher information syst, Member, 1994 - Continues

Peer Reviews in Scientific Publications

IET IMAGE PROCESSING, Journal Indexed in SCI-E, September 2019
IET SIGNAL PROCESSING, Journal Indexed in SCI-E, January 2019
IET RENEWABLE POWER GENERATION, Journal Indexed in SCI-E, December 2018
IET IMAGE PROCESSING, Journal Indexed in SCI-E, August 2018
IET SIGNAL PROCESSING, Journal Indexed in SCI-E, February 2018
SÜLEYMAN DEMİREL ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ DERGİSİ, National Scientific Refreed Journal, January 2017
IET SIGNAL PROCESSING, Journal Indexed in SCI-E, December 2016
springerplus, Other Indexed Journal, May 2016
IET SIGNAL PROCESSING, Journal Indexed in SCI-E, May 2016
IET SIGNAL PROCESSING, Journal Indexed in SCI-E, December 2013

Scientific Project Refereeing

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, May 2018
TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, May 2018
TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, May 2018

Project Supported by Higher Education Institutions, BAP Research Project, February 2018

Tasks In Event Organizations

Üstündağ D., 8th International Conference on İmage processing, Wavelet and Applications , Scientific Congress, İstanbul, Turkey, Eylül 2019

Metrics

Publication: 48
Citation (WoS): 11
Citation (Scopus): 14
H-Index (WoS): 4
H-Index (Scopus): 2

Congress and Symposium Activities

13th INTERNATIONAL MARDIN ARTUKLU SCIENTIFIC RESEARCHES CONFERENCE, Moderator, Mardin, Turkey, 2025
21th UBAK, Panelists, Ankara, Turkey, 2024
5th INTERNATIONAL CONFERENCE ON COMPUTATIONAL AND EXPERIMENTAL SCIENCE AND ENGINEERING, Working Group, Antalya, Turkey, 2018
4th Marmara Mathematics Days, Invited Speaker, İstanbul, Turkey, 2018
RAD Conference, Working Group, Podgorica, Serbia And Montenegro, 2017
3rd Marmara Mathematics Days, Invited Speaker, İstanbul, Turkey, 2017
2. Marmara Matematik Günleri, Invited Speaker, İstanbul, Turkey, 2016
3rd INTERNATIONAL CONFERENCE ON COMPUTATIONAL AND EXPERIMENTAL SCIENCE AND ENGINEERING, Working Group, Antalya, Turkey, 2016
2nd IET International Conference on Intelligent Signal Processing 2015 (ISP), Working Group, London, United Kingdom, 2015
International Conference on Systems, Control, Signal Processing and Informatics, Working Group, Rodos, Greece, 2013
Seventh International Conference on Natural Computation, Working Group, Shanghai, China, 2011
Eighth Wseas Int. Conf. Signal Processing, Working Group, İstanbul, Turkey, 2009
8th WSEAS Int Conference on Signal Processing/3rd WSEAS Int Symposium on Wavelets Theory and Applicat in Appl Math, Signal Proc and Modern Sci , Invited Speaker, İstanbul, Turkey, 2009
the 3rd IASME / WSEAS International Conference on GEOLOGY and SEISMOLOGY (GES'09), Working Group, Kingston-Upon-Hull, United Kingdom, 2009
8th WSEAS International Conference on SIGNAL PROCESSING, COMPUTATIONAL GEOMETRY and ARTIFICIAL VISION (ISCGAV'08), Working Group, Rodos, Greece, 2008
Maximum Entropy and Bayesian Methods, Working Group, Wyoming, United States Of America, 1990
the Alvey Vision Conference, Working Group, Reading, United Kingdom, 1989

Invited Talks

4th Marmara Mathematics Days, Seminar, Marmara Üniversitesi, Turkey, September 2018
3th Marmara Mathematics Days, Seminar, Marmara Üniversitesi, Turkey, October 2017
2nd Marmara Mathematics days, Seminar, Marmara Üniversitesi, Turkey, October 2016
Joint Detection and Estimation of Noisy Sinusoids using Bayesian Inference with Reversible Jump MCMC algorithm, Conference, WSEAS, Turkey, June 2009

Scholarships

Doctorate scholarship abroad, Ministry of Education, 1985 - 1991
Hüsamettin Tugaç Foundation scholarship, TUBITAK, 1980 - 1984
State free boarding high school scholarship, Ministry of Education, 1976 - 1978

Awards

Üstündağ D., International book chapter, Marmara Üniversity, June 2015
Üstündağ D., International book chapter, Marmara Üniversitesi , June 2013

Non Academic Experience

Tübitak, Danışman/Panelist
ADLİ YARGI KURULUŞLARI, bilirkişi
TÜBİTAK, Semi annual report evaluation