

Prof. DURSUN ÜSTÜNDAĞ

Personal Information

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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

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

Under Graduate, İstanbul Teknik Üniversitesi, 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

Professional Experience

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

Courses

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

Advising Theses

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

Üstündağ D., Computer II, Under Graduate, 2009 - 2010
Üstündağ D., Bayesian Inference and Parameter Estimation I, Doctorate, 2008 - 2009
Üstündağ D., Computer I, Under Graduate, 2008 - 2009
Üstündağ D., Bayesian Inference and Parameter Estimation II, Doctorate, 2008 - 2009
Üstündağ D., Regulation of Inverse Problems, Post Graduate, 2001 - 2002

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Recovering Images from PET Camera**
Üstündağ D.
ACTA PHYSICA POLONICA A, vol.132, pp.963-966, 2017 (Journal Indexed in SCI)
- 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, pp.45-50, 2016 (Journal Indexed in SCI)
- 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 (Journal Indexed in 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 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Teaching Electromagnetic Problems with mathematica**
OYMAN SERTELLER N. F. , ÜSTÜNDAĞ D.
Spectrum(Educational Research Services), 2017 (Refereed Journals of Other Institutions)
- 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, pp.65-71, 2016 (Refereed Journals of Other Institutions)
- III. **Numerical Solution of Energy Transmission Lines Equivalent circuit Equation With Adomian Decomposition Method**
OYMAN SERTELLER N. F. , ÜSTÜNDAĞ D.
Journal of Applied Nonlinear of Dynamics, vol.5, pp.65-71, 2016 (Refereed Journals of Other Institutions)
- 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 (Refereed Journals of Other Institutions)
- V. **RECOVERING SINUSOIDS FROM NOISY DATA USING BAYESIAN INFERENCE WITH SIMULATED ANNEALING**
Üstündağ D., Cevri M.
Mathematical and Computational Applications, vol.16, pp.382-391, 2011 (Refereed Journals of Other Institutions)
- VI. **ESTIMATING PARAMETERS OF SINUSOIDS FROM NOISY DATA USING MAXIMUM LIKELIHOOD TOGETHER WITH MONTE-CARLO SIMULATIONS**
Üstündağ D.
Marmara Üniversitesi Fen Bilimler , vol.20, pp.13-24, 2008 (National Refreed University Journal)
- VII. **Retrieving Slowness Distribution of a Medium between Two Boreholes from First Arrival Traveltimes**
Üstündağ D.
INTERNATIONAL JOURNAL OF GEOLOGY, vol.2, pp.1, 2008 (Refereed Journals of Other Institutions)
- 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, pp.432-441, 2008 (Refereed Journals of Other Institutions)
- IX. **Computational Techniques to Solve Electromagnetic Problems by Using FEM**

Oyman Serteller N. F. , Üstündağ D.

WSEAS Transactions on Electronics, vol.5, pp.166-175, 2008 (International Conference Book)

- X. **Recovering Images from Traveltime Data**
Üstündağ D., Özbaşaran E.
Mathematical Computational Applications, vol.8, pp.95-102, 2003 (Refereed Journals of Other Institutions)
- XI. **An Extension of Differential Equation Approach to MaxEnt Image Reconstruction**
Üstündağ D.
Marmara Üniversitesi Fen Bilimleri Dergisi, vol.1, pp.77-88, 1999 (National Refreed University Journal)
- XII. **Analysis of Real Coded Mask Telescope Images**
Üstündağ D.
Marmara Üniversitesi Fen Bilimleri Dergisi, vol.1, pp.69-75, 1999 (National Refreed University 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, pp.295-301, 1991 (International Conference Book)

Books & Book Chapters

- 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 basım, İstanbul, 2005

Refereed Congress / Symposium Publications in Proceedings

- I. **Analysis of Positron Lifetime Spectra with Bayesian Inference**
ÜSTÜNDAĞ D., YAHŞI 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 Computational 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 CONFERENCE ON 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 Experimental 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., YAHŞI 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 Equations with Adomian
Decomposition Method**
Oyman Serteller N. F. , Üstündağ D.
The 3rd International Conference on Complex 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 Day Symposium 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 Processing 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 systems, 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.
 Proceedings 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 Çıkarım İle 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

Scientific Refereeing

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

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, SCIENTIFIC AND TECHNOLOGICAL RESEARCH COUNCIL OF TURKEY, Turkey, May 2018

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, SCIENTIFIC AND TECHNOLOGICAL RESEARCH COUNCIL OF TURKEY, Turkey, May 2018

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, SCIENTIFIC AND TECHNOLOGICAL RESEARCH COUNCIL OF TURKEY, Turkey, May 2018

IET SIGNAL PROCESSING, Journal Indexed in SCI-E, February 2018

Project Supported by Higher Education Institutions, BAP Research Project, Van Yüzüncü Yil University, Turkey, 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

IET SIGNAL PROCESSING, Journal Indexed in SCI-E, May 2016

springerplus, Other Indexed Journal, May 2016

IET SIGNAL PROCESSING, Journal Indexed in SCI-E, December 2013

Tasks In Event Organizations

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

Invited Congress and Symposium Activities

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

Citations

Total Citations (WOS):45

h-index (WOS):4

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 Tuğaç Foundation scholarship, TÜBİTAK, 1980 - 1984
State free boarding high school scholarship, Ministry of Education, 1976 - 1978

Awards

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