Prof. ÖZLEM İLK DAĞ

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: L-9093-2013

ScopusID: 15745642100

Yoksis Researcher ID: 164867

Education Information

Doctorate, Iowa State University, Istatistik, United States Of America 2000 - 2004

Undergraduate, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, Turkey 1993 - 1997

Foreign Languages

English, C1 Advanced

Research Areas

Statistics, Statistical Analysis and Applications

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2018 - Continues

Associate Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2013 - 2018

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2010 - 2013

Lecturer PhD, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2004 - 2010

Research Assistant, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 1997 - 2004

Academic and Administrative Experience

Head of Department, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Statistics, 2021 - 2024

Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2013 - 2015

Advising Theses

İLK DAĞ Ö., Variable selection and classification for longitudinal binary data through three-step sparse boosting, Doctorate, D.ESİN(Student), 2022

İLK DAĞ Ö., Propensity score matching in the election forecasting by focusing on undecided voters, Postgraduate, Z.TOPRAK(Student), 2022

İLK DAĞ Ö., Statistical and machine learning modelling of suicide rate with respect to provinces in Turkey, Postgraduate, S.ERDOĞAN(Student), 2022

İLK DAĞ Ö., Longitudinal models for life expectancy at birth in Turkey, Postgraduate, Ö.ASKER(Student), 2021

İlk Dağ Ö., Modeling longitudinal interruption data from Turkish Electricity Distribution Companies, Postgraduate, Z.EBRU(Student), 2019

İLK DAĞ Ö., A Closer look to Turkish students' scientific literacy: what do pisa 2015 results tell us?, Postgraduate, S.Demirci(Student), 2018

İLK DAĞ Ö., Closer look to Turkish students' scientific literacy: What do PISA 2015 results tell us?, Postgraduate, S.DEMİRCİ(Student), 2018

İLK DAĞ Ö., Statistical disease detection with resting state functional magnetic resonance imaging, Postgraduate, E.ÖZTÜRK(Student), 2017

BATMAZ İ., İLK DAĞ Ö., The effect of computer assisted instruction on eight grade students' permutation-combination-probability achievement and attitudes towards computer assisted instruction, Postgraduate, T.KAPUCU(Student), 2017

YOZGATLIGİL C., İLK DAĞ Ö., Statistical analysis of electricity energy consumption with respect to provinces in Turkey, Postgraduate, M.ÇAKMAK(Student), 2014

İLK DAĞ Ö., A marginalized multilevel model for bivariate longitudinal binary data, Doctorate, G.İNAN(Student), 2014

İYİGÜN C., İLK DAĞ Ö., Clustering of time-course gene expression data with dissimilar replicates, Postgraduate, O.ÇINAR(Student), 2013

İLK DAĞ Ö., On multivariate longitudinal binary data models and their applications in forecasting, Postgraduate, Ö.ASAR(Student), 2012

İLK DAĞ Ö., On multivariate longitudinal binary data models and thiir applications in forecasting, Postgraduate, Ö.Asar(Student), 2012

BATMAZ İ., İLK DAĞ Ö., Mixed effects models for time series gene expression data, Doctorate, İ.ERKAN(Student), 2011

İLK DAĞ Ö., Which method gives the best forecast for longitudinal binary response data?: A simulation study, Postgraduate, Y.ASLAN(Student), 2010

İLK DAĞ Ö., A simulation study on the comparison of methods for the analysis of longitudinal count data, Postgraduate, G.İNAN(Student), 2009

İLK DAĞ Ö., Statistical modelling of financial statements of Turkey: A panel data analysis, Postgraduate, D.AKINÇ(Student), 2008

İLK DAĞ Ö., A simulation study on marginalized transition random effects models for multivariate longitudinal binary data, Postgraduate, Z.YALÇINÖZ(Student), 2008

KÖKSAL G., İLK DAĞ Ö., A method for robust design of products or processes with categorical response, Postgraduate, S.ERDURAL(Student), 2006

Jury Memberships

Associate Professor Exam, Associate Professor Exam, Üniversitelerarası Kurul, July, 2019

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Irregular longitudinal data analysis with statistical and machine learning methods for hazardous asteroids**
TANRIVERDİ İ., İLK DAĞ Ö., GÜRKAN M. A.
Astronomy and Computing, vol.47, 2024 (SCI-Expanded)

II. **GeneSelectML: a comprehensive way of gene selection for RNA-Seq data via machine learning**

algorithms
DAĞ O., KAŞIKCI ÇAVDAR M., İLK DAĞ Ö., Yesiltepe M.
MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING, vol.61, no.1, pp.229-241, 2023 (SCI-Expanded)

III. **An evaluation of a novel approach for clustering genes with dissimilar replicates**
Cinar O., İYİGÜN C., İLK DAĞ Ö.
COMMUNICATIONS IN STATISTICS-SIMULATION AND COMPUTATION, vol.51, no.12, pp.7458-7471, 2022 (SCI-Expanded)

IV. **Effect of FMD vaccination schedule of dams on the level and duration of maternally derived antibodies**
Sareyyupoglu B., Gulyaz V., Cokcaliskan C., Unal Y., Cokulgen T., Uzunlu E., Gurcan S., Ilk Ö.
VETERINARY IMMUNOLOGY AND IMMUNOPATHOLOGY, vol.217, 2019 (SCI-Expanded)

V. **A marginalized multilevel model for bivariate longitudinal binary data**
Inan G., Ilk Ö.
STATISTICAL PAPERS, vol.60, no.3, pp.251-278, 2019 (SCI-Expanded)

VI. **Investigation of seven european colorectal cancer related SNPs in Turkish sporadic colorectal cancer population**
Cumaogullari O., İLK DAĞ Ö., Rajabli F., Kuzu A., ÖZDAĞ H.
FEBS OPEN BIO, vol.8, pp.343, 2018 (SCI-Expanded)

VII. **Clustering of short time-course gene expression data with dissimilar replicates**
Cinar O., İLK Ö., İYİGÜN C.
ANNALS OF OPERATIONS RESEARCH, vol.263, pp.405-428, 2018 (SCI-Expanded)

VIII. **Predicting intraoperative pain in emergency endodontic patients: clinical study**
Yucel O., Ekici M. A., İLK DAĞ Ö., İLHAN M. N., KAYAOĞLU G.
BRAZILIAN ORAL RESEARCH, vol.32, 2018 (SCI-Expanded)

IX. **Estimating Box-Cox power transformation parameter via goodness-of-fit tests**
Asar O., İLK DAĞ Ö., DAĞ O.
COMMUNICATIONS IN STATISTICS-SIMULATION AND COMPUTATION, vol.46, no.1, pp.91-105, 2017 (SCI-Expanded)

X. **An algorithm for estimating Box-Cox transformation parameter in ANOVA**
DAĞ O., İLK DAĞ Ö.
COMMUNICATIONS IN STATISTICS-SIMULATION AND COMPUTATION, vol.46, no.8, pp.6424-6435, 2017 (SCI-Expanded)

XI. **First-order marginalised transition random effects models with probit link function**
Asar O., İLK DAĞ Ö.
JOURNAL OF APPLIED STATISTICS, vol.43, no.5, pp.925-942, 2016 (SCI-Expanded)

XII. **Forecasting multivariate longitudinal binary data with marginal and marginally specified models**
Asar O., İLK DAĞ Ö.
JOURNAL OF STATISTICAL COMPUTATION AND SIMULATION, vol.86, no.2, pp.414-429, 2016 (SCI-Expanded)

XIII. **Predictive Model of Intraoperative Pain during Endodontic Treatment: Prospective Observational Clinical Study**
KAYAOĞLU G., Gurel M., Saricam E., İLHAN M. N., İLK DAĞ Ö.
JOURNAL OF ENDODONTICS, vol.42, no.1, pp.36-41, 2016 (SCI-Expanded)

XIV. **From RNA isolation to microarray analysis: Comparison of methods in FFPE tissues**
Belder N., Coskun O., ERDOĞAN B. D., İLK DAĞ Ö., SAVAŞ B., ENSARİ A., ÖZDAĞ H.
PATHOLOGY RESEARCH AND PRACTICE, vol.212, no.8, pp.678-685, 2016 (SCI-Expanded)

XV. **Flexible multivariate marginal models for analyzing multivariate longitudinal data, with applications in R**
Asar O., İLK DAĞ Ö.
COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE, vol.115, no.3, pp.135-146, 2014 (SCI-Expanded)

XVI. **Kim, Y., Choi, Y.-K., and Emery, S. (2013), "Logistic Regression With Multiple Random Effects: A Simulation Study of Estimation Methods and Statistical Packages," The American Statistician, 67, 171-**

182.

Inan G., İLK DAĞ Ö., de Leon A. R.

AMERICAN STATISTICIAN, vol.68, no.2, pp.129-130, 2014 (SCI-Expanded)

XVII.   **A Methodology to Implement Box-Cox Transformation When No Covariate is Available**

Dag O., Asar O., İLK DAĞ Ö.

COMMUNICATIONS IN STATISTICS-SIMULATION AND COMPUTATION, vol.43, no.7, pp.1740-1759, 2014 (SCI-Expanded)

XVIII.   **Modeling company failure: a longitudinal study of Turkish banks**

İLK DAĞ Ö., Pekkurnaz D., ÇİNKO M.

OPTIMIZATION, vol.63, no.12, pp.1837-1849, 2014 (SCI-Expanded)

XIX.   **mmm: An R package for analyzing multivariate longitudinal data with multivariate marginal models**

Asar O., İLK DAĞ Ö.

COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE, vol.112, no.3, pp.649-654, 2013 (SCI-Expanded)

XX.   **High resolution transcriptomic analysis of trousseau syndrome**

DALKILIÇ S., Ozkeserli Z., İLK DAĞ Ö., OĞUZÜLGEN İ. K., Akar N., ÖZDAĞ H.

JOURNAL OF THROMBOSIS AND HAEMOSTASIS, vol.11, pp.723, 2013 (SCI-Expanded)

XXI.   **Genome-Wide Transcriptional Reorganization Associated with Senescence-to-Immortality Switch during Human Hepatocellular Carcinogenesis**

Yildiz G., ARSLAN ERGÜL A., Bagislar S., KONU KARAKAYALI Ö., Yuzugullu H., Gursoy-Yuzugullu O., Ozturk N., Ozen C., ÖZDAĞ H., Erdal E., et al.

PLOS ONE, vol.8, no.5, 2013 (SCI-Expanded)

XXII.   **Power Analysis of C-TDT for Small Sample Size Genome-Wide Association Studies by the Joint Use of Case-Parent Trios and Pairs**

Rajabli F., Inan G., İLK DAĞ Ö.

COMPUTATIONAL AND MATHEMATICAL METHODS IN MEDICINE, 2013 (SCI-Expanded)

XXIII.   **The effect of Laplacian filter in adaptive unsharp masking for infrared image enhancement**

İlk H. G., Jane O., İlk Dağ Ö.

INFRARED PHYSICS & TECHNOLOGY, vol.54, no.5, pp.427-438, 2011 (SCI-Expanded)

XXIV.   **A novel approach for small sample size family-based association studies: sequential tests**

İLK DAĞ Ö., Rajabli F., Dungul D. C., ÖZDAĞ H., İLK H. G.

EUROPEAN JOURNAL OF HUMAN GENETICS, vol.19, no.8, pp.915-920, 2011 (SCI-Expanded)

XXV.   **Prevalence of oral abnormalities in a Turkish newborn population**

Cetinkaya M., TULGA-ÖZ F., Orhan A. I., ORHAN K., Karabulut B., Can-Karabulut D. C., İLK DAĞ Ö.

INTERNATIONAL DENTAL JOURNAL, vol.61, no.2, pp.90-100, 2011 (SCI-Expanded)

XXVI.   **Marginalized transition random effect models for multivariate longitudinal binary data**

Ilk Ö., Daniels M. J.

CANADIAN JOURNAL OF STATISTICS-REVUE CANADIENNE DE STATISTIQUE, vol.35, no.1, pp.105-123, 2007 (SCI-Expanded)

XXVII.   **A flexible bit rate switching method for low bit rate vocoders**

Eroğul O., Ilk H. G., Ilk Ö.

Signal Processing, vol.81, no.8, pp.1737-1742, 2001 (SCI-Expanded)

Articles Published in Other Journals

I.   **Adhesion to Primary and Permanent Dentin and a Simple Model Approach**

karabulut d., oz f., karabulut b., BATMAZ İ., İLK Ö.

European Journal of Dentistry, 2009 (Scopus)

Books & Book Chapters

I. **A Categorical Principal Component Regression on Computer-Assisted Instruction in Probability Domain**
    Kapucu T., İlk Dağ Ö., Batmaz İ.
    in: Trends and Perspectives in Linear Statistical Inference, Tez M.,von Rosen D., Editor, Springer, London/Berlin , Zürich, pp.143-164, 2018

II. **R Yazilimina Giris 2 baski**
    İLK Ö.
    ODTÜ Yayıncılık, 2015

III. **Introduction to R Software**
    İlk Ö.
    ODTÜ Yayıncılık, Ankara, 2011

IV. **Multivariate Longitudinal Data Analysis Models for Binary Response and Exploratory Tools for Binary and Continuous Response**
    İLK Ö.
    Verlag Dr. Muller (VDM), 2008

Refereed Congress / Symposium Publications in Proceedings

I. **Box-Cox Transformation for Linear Models via Goodness-of-Fit Tests in R**
    DAĞ O., İLK Ö.
    10th International Statistics Congress, 6 - 08 December 2017

II. **Asymmetric Confidence Interval with Box-Cox Transformation in R**
    DAĞ O., İLK Ö.
    10th International Statistics Congress, 6 - 08 December 2017

III. **Sporadik Kolorektal Kanser ile İlişkilendirilmiş Aday Tekli Nükleotid Polimorfizmlerinin Türk Popülasyonu için Değerlendirilmesi**
    Bilici Z., Cumaoğulları Ö., İLK Ö., KUZU M. A., ÖZDAĞ H.
    15. Uluslararası Katılımlı Ulusal Tıbbi Biyoloji ve Genetik Kongresi, 26 - 29 October 2017

IV. **Classifying Resting State Functional Magnetic Resonance Imaging Data**
    ÖZTÜRK E., İLK Ö.
    9th EMR-IBS and Italian Region conference, Thessaloniki, Greece, 8 - 12 May 2017

V. **Investigation of four colorectal cancer related single nucleotide polymorphisms in Turkish sporadic colorectal cancer cases**
    Cumaogullari O., TEKİN N., Rajabli F., İLK DAĞ Ö., KUZU M. A., ÖZDAĞ H.
    41st FEBS Congress on Molecular and Systems Biology for a Better Life, Kusadasi, Turkey, 3 - 08 September 2016, vol.283, pp.155

VI. **Second step of genome-wide association study: Validation of 50 single nucleotit polymorphisms associated with sporadic colorectal cancer in Turkish population**
    Cumaogullari O., İLK DAĞ Ö., TEKİN N., Rajabli F., KUZU M. A., Dungul D. C., Belder N., ÖZDAĞ H.
    40th Congress of the Federation-of-European-Biochemical-Societies (FEBS) - The Biochemical Basis of Life, Berlin, Germany, 4 - 09 July 2015, vol.282, pp.394

VII. **MLE in a Feasible Region is as Good as or Better Than the Usual MLE While Estimating Box Cox Transformation Parameter in ANOVA**
    DAG O., İLK Ö.
    The 8th Conference of EMR-IBS, Nevşehir, Turkey, 11 - 15 May 2015, pp.15

VIII. **A MAJOR ROLE FOR SENESCENCE AND IMMORTALITY GENE NETWORK IN HEPATOCELLULAR CARCINOMA**
    ARSLAN ERGÜL A., Bagislar S., KONU KARAKAYALI Ö., Ozturk N., ÖZDAĞ H., Ozturk A. R., Erdal E., KARADEMİR S.,

SAĞOL Ö., Mizrak D., et al.

60th Annual Meeting of the American-Association-for-the-Study-of-Liver-Diseases, Massachusetts, United States Of America, 30 October - 03 November 2009, vol.50

IX. **Investigation and comparison of the preprocessing algorithms for microarrayanalysis for robust gene expression calculation and performance analysis of technical replicates**
İLK H. G., İLK DAĞ Ö., KONU KARAKAYALI Ö., ÖZDAĞ H.
IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 16 - 19 April 2006, pp.183-184

Episodes in the Encyclopedia

I. **Wiley StatsRef: Statistics Reference Online**
Glynn R., Rosner B., İLK Ö.
Wiley, pp., 2017

Supported Projects

Özdağ H., İlk Dağ Ö., TUBITAK Project, Türk Popülasyonunda Aile Temelli Genom Boyu Asosiyasyon Çalışması Sonucunda Sporadik Kolorektal Kanser ile İlişkilendirilmiş 75 TNP nin Geniş Bir Popülasyon Çalışması ile Doğrulanması, 2013 - 2016
KÖKSALAN M. M., KÖKSAL G., ÖZATEŞ GÜRBÜZ M., İLK DAĞ Ö., Project Supported by Higher Education Institutions, Robust Ürün ve Süreç Tasarımı için İstatistiksel Modelleme ve Etkileşimli Optimizasyon, 2015 - 2015
Yuluğ I., İlk Dağ Ö., TUBITAK Project, Meme Kanserinde Epigenetik Olarak Susturulmuş Genlerin Yeniden Aktive Edilerek Gen İfade Profillerinin, 2007 - 2009

Memberships / Tasks in Scientific Organizations

Mathematics and Physics Reserach Group, Member of Advisory Board, 2020 - 2021, Turkey
Matematik ve Fizik Araştırma Grubu, Member of Advisory Board, 2019 - 2020, Turkey
Matematik ve Fizik Araştırma Grubu, Member of Advisory Board, 2018 - 2019, Turkey

Scientific Refereeing

Bioinformatics, Journal Indexed in SCI-E, December 2019
PEERJ, Journal Indexed in SCI-E, June 2019

Metrics

Publication: 43
Citation (WoS): 250
Citation (Scopus): 283
H-Index (WoS): 10
H-Index (Scopus): 10

Congress and Symposium Activities

XXIXth International Biometric Conference , Working Group, Barcelona, Spain, 2018

Non Academic Experience

TÜBİTAK
TÜBİTAK
EMR-IBS
EMR-IBS
EMR-IBS
Iowa State University