

Prof. Dr. Ozlem ILK (DAG)

Curriculum Vitae, April 2021

CONTACT INFORMATION:

Middle East Technical University,
Faculty of Arts and Sciences,
Department of Statistics, 134,
Ankara, 06800, Turkey
E-mail: oilk@metu.edu.tr
Home page: <http://users.metu.edu.tr/oilk/>

EDUCATION:

Ph.D.: Department of Statistics, Iowa State University, USA, 2000-2004

M.S.: Department of Statistics, Iowa State University, USA, 1998-2000

B.S.: Department of Statistics, Middle East Technical University, Turkey, 1994-1997

RESEARCH INTERESTS:

Statistical data analysis, longitudinal data, multilevel modeling, interactive (dynamic) graphics, statistical computing, Bayesian data analysis, education, biostatistics, statistics for microarrays

CURRENT POSITIONS:

Head, Department of Statistics, Middle East Technical University, Ankara, Turkey
(19 March 2021-present)

Professor, Department of Statistics, Middle East Technical University, Ankara, Turkey (October 2018-present)

Advisory Board, Mathematics & Physics Research Support Group (MFAG), TUBITAK (The Scientific and Technological Research Council of Turkey) (October 2018-present)

Advisory Board, Journal of Biostatistics, Turkish Clinics (2009-)

PREVIOUS POSITIONS:

Statistical Consultant, Income and Living Conditions Survey, EU Grant Contract No. 14463.2015.003-2016-507, Turkish Statistical Institute (TurkStat), Ankara, Turkey (June-July 2019)

Associate Professor (by university), Department of Statistics, Middle East Technical University, Ankara, Turkey (November 2013-present)

Associate Professor (by YOK), Department of Statistics, Middle East Technical University, Ankara, Turkey (12 December 2012-present)

Affiliated Faculty Member, Actuarial Sciences Program, Institute of Applied Mathematics, Middle East Technical University, Ankara, Turkey (September, 2008- May 2017)

Ethics Committee Member, Department of Statistics, Middle East Technical University, Ankara, Turkey (March 2008-2015)

Assistant Editor of Journal of Statistical Research (Turkey), TUIK, Ankara, Turkey (July, 2007 - June 2015)

Vice Chair Person, Department of Statistics, Middle East Technical University, Ankara, Turkey (24 December 2012-11 March 2015)

Assistant Professor, Department of Statistics, Middle East Technical University, Ankara, Turkey (July, 2010-December 2012)

Instructor, Department of Statistics, Middle East Technical University, Ankara, Turkey (September, 2004- July 2010)

Expert researcher (part-time), TUBITAK (The Scientific and Technological Research Council of Turkey), Division of Science, Technology and Innovation

Policies and Strategies (June 2009-May 2010)

Summer Internship Coordinator, Department of Statistics, Middle East Technical University, Ankara, Turkey (July 2011 - May 2014)

One of the academic advisors of SIAM Student Chapter at METU, Ankara, Turkey (November, 2011 - 2013)

One of the members of "Istatistik Egitimi Hazirlik Komisyonu" (Statistics Education Preparation Commission), TUIK, Ankara, Turkey (January, 2012 - March 2012)

General secretary & Treasurer of EMR-IBS (Eastern Mediterranean Region - International Biometric Society) (May, 2007 - May, 2009)

The country representative of EMR-IBS (Eastern Mediterranean Region - International Biometric Society) (May, 2005- May, 2007)

Research Assistant, Department of Statistics, Middle East Technical University, Ankara, Turkey (1997-2004)

Research Assistant, Department of Statistics, Iowa State University, Ames, USA (Fall 2003 - Spring 2004)

Student Assistant, Department of Statistics, Middle East Technical University, Ankara, Turkey (1996-1997)

SELECTED PUBLICATIONS:

Thesis:

Ilk, O. (2004) Exploratory multivariate longitudinal data analysis and models for multivariate longitudinal binary data. Ph.D. Thesis. Under the supervision of Dianne Cook and Michael Daniels. An updated version of this work is published as a book in 2008.

Ilk, O. (2000) Graphical methods for data containing a mix of categorical and quantitative variables Application to breast cancer studies. M.S. Creative Component (non-thesis M.S. report). Under the supervision of Dianne Cook.

Books:

Ilk, O. (2021) R Yazilimina Giris, 3. baski. Detay Yayıncılık, Ankara, Türkiye. Web page supplement of this book is available [here](#) for the third edition.

Ilk, O. (2015) R Yazilimina Giris, 2. baski. ODTU Yayıncılık (METU Press), Ankara, Türkiye. ISBN: 978-605-4362-26-4
Web page supplement of this book is available [here](#) for the second edition.

Ilk, O. (2011) R Yazilimina Giris. ODTU Yayıncılık (METU Press), Ankara, Türkiye. ISBN: 978-605-4362-26-4
Web page supplement of this book is available [here](#) for the first edition.

Ilk, O. (2008) [Multivariate Longitudinal Data Analysis](#). Verlag Dr. Muller (VDM), Saarbrücken, Germany. ISBN: 978-3639072549
Web page supplement of this book is available [here](#)

Chapters in Books:

Glynn, R. J., Rosner, B. and Ilk, O. (2017). Multivariate Methods for Binary Longitudinal Data. Wiley StatsRef: Statistics Reference Online. 1-10. Online ISBN: 9781118445112

Ilk, O. (2007). Panel Data Analysis. Recent Advances in Statistics, Turkish Statistical Institute Press, Chapter 11, pp. 141-147. ISBN: 978-975-01606-0-8.

Refereed papers indexed in SCI:

Cinar, O., Iyigun, C. & Ilk O. (2021?) An evaluation of a novel approach for clustering genes with dissimilar replicates, Communications in Statistics - Simulation and Computation, DOI: 10.1080/03610918.2020.1839092

Inan, G., Ilk, O. (2019) A marginalized multilevel model for bivariate longitudinal binary data. Statistical Papers, 60:3, 251-278.

Sareyyüpoğlu B, Gülyaz V, Çokçaliskan C, Ünal Y, Çökülgen T, Uzunlu E, Gürcan S, Ilk O. (2019) Effect of FMD vaccination schedule of dams on the level and duration of maternally derived antibodies. Vet Immunol Immunopathol. 217:

109881.

Yucel O., Ekici, M., Ilk, O., Ilhan, M.N., Kayaoglu, G. (2018) Predicting Intraoperative Pain in Emergency Endodontic Patients: Clinical Study. *Brazilian Oral Research*, 32, e:38.

Cinar, O., Ilk, O., Iyigun, C. (2018) Clustering of Short Time-Course Gene Expression Data with Dissimilar Replicates. *Annals of Operations Research*, 263, 405-428.

Dag, O., Ilk, O. (2017) An Algorithm for Estimating Box-Cox Transformation Parameter in ANOVA. *Communications in Statistics - Simulation and Computation*, 46: 8, 6424-6435.

Asar, O., Ilk, O., Dag, O. (2017) Estimating Box-Cox Power Transformation Parameter Via Goodness-of-Fit Tests. *Communications in Statistics - Simulation and Computation*, 46: 1, 91-105.

Belder, N., Coskun, O., Erdogan, B.D., Ilk, O., Savas, B., Ensari, A., Ozdag, H. (2016) From RNA Isolation to Microarray Analysis - Comparison of Methods in FFPE Tissues. *Pathology - Research and Practice*, 212: 8, 678–685.

Kayaoglu, G., Gurel, M., Saricam, E., Ilhan, M.N., Ilk, O. (2016) Predictive Model of Intraoperative Pain during Endodontic Treatment: Prospective Observational Clinical Study. *Journal of Endodontics*, 42:1, 36-41.

Asar, O., Ilk, O. (2016) First-order marginalised transition random effects models with probit link function. *Journal of Applied Statistics*, 43:5, 925-942.

Asar, O., Ilk, O. (2016) Forecasting multivariate longitudinal binary data with marginal and marginally specified models. *Journal of Statistical Computation and Simulation*, 86:2, 414-429.

Ilk, O., Pekkurnaz, D., Cinko, M. (2014) Modeling company failure: a longitudinal study of Turkish banks. *Optimization: A Journal of Mathematical Programming and Operations Research*, 63:12, 1837-1849.

Asar, O., Ilk, O. (2014). Flexible multivariate marginal models for analyzing multivariate longitudinal data, with applications in R. *Computer Methods and*

Programs in Biomedicine, 115:3, 135-146.

Inan, G., Ilk-Dag, O., de Leon, A.R. (2014) Letter to Editor Re: "Logistic regression with multiple random effects: A simulation study of estimation methods and statistical packages," by Y. Kim, Y-K. Choi, and S. Emery, in *The American Statistician*, 67:3,171-182. *The American Statistician*, 68:2, 129-130.

Dag, O., Asar, O., Ilk, O. (2014) A methodology to implement Box-Cox Transformation when no covariate is available. *Communications in Statistics - Simulation and Computation*, 43:7, 1740-1759.

Asar, O., Ilk, O. (2013) mmm: an R package for analyzing multivariate longitudinal data with multivariate marginal models. *Computer Methods and Programs in Biomedicine*, 112:3, 649-654.

Yildiz G, Arslan-Ergul A, Bagislar S, Konu O, Yuzugullu H, et al. (2013) Genome-Wide Transcriptional Reorganization Associated with Senescence-to-Immortality Switch during Human Hepatocellular Carcinogenesis. *PLoS ONE* 8(5): e64016. doi:10.1371/journal.pone.0064016

Rajabli, F., Inan, G., Ilk, O. (2013) Power analysis of C-TDT for small sample size genome-wide association studies by the joint use of case-parent trios and pairs. *Computational and Mathematical Methods in Medicine (Special Issue: Statistical Analysis of Biomarkers for Personalized Medicine)*, vol. 2013, Article ID 235825, 7 pages, 2013. doi:10.1155/2013/235825.

Ilk, H.G., Jane, O., Ilk, O. (2011) The effect of Laplacian filter in adaptive unsharp masking for infrared image enhancement. *Infrared Physics & Technology*, 54, 427-438.

Ilk, O., Rajabli, F., Dungul, D., C., Ozdag, H., Ilk, H.G. (2011) A novel approach for small sample size family-based association studies: Sequential Tests. *European Journal of Human Genetics*, 19, 915-920.

Cetinkaya M., Tulga-Oz F., Orhan A. I, Orhan K., Karabulut B., Can-Karabulut D.C., Ilk O. (2011) Prevalence of oral abnormalities in a Turkish newborn population. *International Dental Journal*, 61 (2), 90-100.

Ilk O. and Daniels M. (2007) Marginalized Transition Random Effects Models for

Multivariate Longitudinal Binary Data. The Canadian Journal of Statistics - La revue canadienne de statistique, 35 (1), 105-123.

Erogul O., Ilk H. G., and Ilk O. (2001) A flexible bit rate switching method for low bit rate vocoders. Signal Processing, 81 (8), 1737-1742.

Refereed papers in international journals:

Karabulut, B., Tulga-Oz, F., Can-Karabulut, D.C., Batmaz, I., Ilk, O. (2009) Adhesion to Primary and Permanent Dentin and a Simple Model Approach, European Journal of Dentistry, 3, 32-41.

Ilk O. (2007) Use of Question and Comment Papers in College Teaching. Assessment Update, Vol 19, Number 6, pp. 12-13,16.

Adjengue L, Yacout S, Ilk O. (2007) Parameters Estimation for Condition Based Maintenance with Uncorrelated and Correlated Observations. Quality Engineering, 19, 197-206.

Refereed papers in national journals:

Fidanoglu, P., Belder, N., Erdogan, B., Ilk, O., Rajebli, F., Ozdag, H. (2014), Genom Projeleri 5N1P: ne, nerede, ne zaman, nasıl, neden ve hangi populusyonda?, Turk Hijyen ve Deneysel Biyoloji Dergisi, 71 (1): 45-60.

Inan, G., Ilk, O. (2013) Implementation of Regression Models for Longitudinal Count Data through SAS, Istatistik Arastirma Dergisi, 10, 3, 49-63.

Ilk, O., Cinko, M., Akinc, D., Pekkurnaz, D. (2008) Hizmet Sektorunde Mali Basarisizligin Modellenmesi, Istatistik Arastirma Dergisi, 6,1, 52-64.

REVIEW ACTIVITIES: Reviewed manuscripts for:

Bioinformatics, Statistics in Medicine, Plos One, BMC Bioinformatics, Journal of Statistical Software, Computational Statistics and Data Analysis, Computational Statistics, Journal of Statistical Computation and Simulation, Journal of Industrial Management Optimization, IEEE Access, Communications in Statistics - Simulation and Computation, PeerJ, Journal of Statistical Research, Turkish Clinics, Cankaya University Journal of Arts and Sciences, ...

GRADUATE STUDENT SUPERVISION:

Advisor of the following students:

Ph.D. students:

Deniz Esin Emer (Ph.D., STAT)

Ibrahim Erkan (Ph.D., STAT) (together with Assoc.Prof. Dr. Inci Batmaz)
(graduated in December 2011)

Gul Inan (Ph.D., STAT) (graduated in August 2014)

A. Fatih Ortakaya (Ph.D., STAT) (graduated in December 2016)

M.S. students:

Deniz Akinc (M.S., STAT) (graduated in Summer, 2008)

Ozgur Asar (M.S., STAT) (graduated in Summer, 2012)

Ozlem Asker (M.S., STAT) (graduated in Fall, 2021)

Yasemin Aslan (M.S., STAT) (graduated in Summer, 2010)

Ozan Cinar (M.S., STAT) (together with Assist. Prof. Cem Iyigun) (graduated in
Summer, 2013)

Sinem Demirci (M.S., STAT) (graduated in Fall, 2019)

Gul Inan (M.S., STAT) (graduated in Summer, 2009)

Ebru Korkmaz (M.S., STAT) (graduated in Spring, 2019)

Ebru Ozturk (M.S., STAT) (graduated in Summer 2017)

Zerrin Yalcinoz (M.S., STAT) (graduated in Spring, 2008)

Co-advisor of the following students:

Mehmet Cakmak (M.S., STAT) (together with Asst. Prof. Ceylan Yozgatligil)
(graduated in Fall, 2014)

Serkan Erdural (M.S., IE) (together with Prof. Dr. Gulser Koksall) (graduated in
Fall, 2006)

Tugba Kapucu (M.S., STAT) (together with Prof. Dr. Inci Batmaz) (graduated in
December 2016)

Supervisor of term-project in Applied Mathematics Institute:

Cansu Calik (M.S., IAM) (graduated in Spring, 2015)

PROJECT EXPERIENCE:

Completed projects:

Project title: "Validation of 75 SNPs associated with sporadic colorectal cancer identified through family based genomewide association study conducted in Turkish population"

PI: Assoc. Prof. Hilal Ozdag (Ankara University, Biotechnology Institute)

Supported by: The Scientific and Technological Research Council of Turkey (TUBITAK), TURKEY

COST project, Action: BM1206 (Cooperation Studies on Inherited Susceptibility to Colorectal Cancer)

Role & time spent: Co-investigator, June 2013 - June 2016

Project title: "Determination of New Genetic Predisposition Genes and Genes Involved in Cancer Progression Through Genomewide SNP Profiling in Sporadic Colorectal Cancer Cases"

PI: Assoc. Prof. Hilal Ozdag (Ankara University, Biotechnology Institute)

Supported by: The Scientific and Technological Research Council of Turkey (TUBITAK), TURKEY

Role & time spent: Co-investigator, February 2008 - February 2011

Project No: 107S348

Project title: "Cancer and Venous Thrombosis: Genomewide Expression Analysis In Order To Identify New Molecular Markers That Lie between Thrombosis and Tumorigenesis"

PI: Assoc. Prof. Hilal Ozdag (Ankara University, Biotechnology Institute)

Supported by: BAP, Ankara University

Role & time spent: Co-investigator, January 2008 - January 2011

Project title: "Identification and Expression Profiling of Novel Target Genes Determined by an Epigenetic Reactivation Screen in Breast Cancer"

PI: Assoc. Prof. Isik Yulug (Bilkent, Molecular Biology and Genetics)

Supported by: The Scientific and Technological Research Council of Turkey (TUBITAK), TURKEY

Role & time spent: Co-investigator, July 2007 - July 2009

Project No: TBAG- 107T181

Project title: "Investigation of the effects of nicotine and levamisole on the cellular phenotype and expression profiles of cancer cells using a comparative functional genomics approach"

PI: Assist. Prof. Ozlen Konu (Bilkent, Molecular Biology and Genetics)

Supported by: The Scientific and Technological Research Council of Turkey (TUBITAK), TURKEY

Role & time spent: Co-investigator, September 2007 - September 2009

Project No: 106T548

Project title: "Statistical models and predictions for financial statements of sectors in Turkey"

PI: Dr. Ozlem Ilk

Supported by: The Scientific and Technological Research Council of Turkey (TUBITAK), TURKEY

Role & time spent: Principal investigator, Jan 2006 - Jan 2007

Project No: SOBAG-105K048

Project title: "Genetic and antigenic evolution of PRRS virus in persistently infected pigs"

Under the supervision of: Prof. Philip Dixon

Supported by: National Research Institute (NRI), USA

Role & time spent: Graduate student researcher, Jan 2003 - Jan 2004

Project Title: "Covariance Estimation for Longitudinal Cancer Data"

PI: Prof. Michael Daniels

Supported by: National Institute of Health (NIH), USA

Role & time spent: Graduate student researcher, May 2001 - May 2004

TEACHING:

I taught 13 different undergraduate and 3 different graduate courses over the last 15 years at METU.

I also worked as a teaching assistant at METU between 1997 and 1998.

Here is a list of the courses that I have most recently taught:

Stat250- Applied Statistics, Stat 363- Linear Models I, Stat 364- Linear Models II, Stat 462 – Biostatistics, Stat 551- Probability and Statistics I, Stat 552- Probability and Statistics II, Stat 561- Panel Data Analysis

EXPERIENCES ABROAD:

Spain, Barcelona, 2018 - to present my work in a conference

Germany, Magdeburg, 2014 - to lecture in the framework of Erasmus-Socrates

England, London, 2011 - to present my work in a conference

Greece, Crete, 2011 - to present my work in a conference

Portugal, Lisbon, 2010 - to present my work in a conference & serve as a chair of a session

Ireland, Dublin, 2008 - to present my work in a conference & to attend Executive committee meetings

Denmark, Copenhag, 2007 - to lecture in the framework of Erasmus-Socrates

Israel, Eilat, 2007 - to present my work in a conference & to serve as country representative & as a chair of a session

Norway, Oslo, 2005 - to attend a training camp and conference

Greece, Corfu Islands, 2005 - to present my work in a conference

United States, Ames and many more, 1998-2004 - for graduate studies

Mexico, Puerta Valerta, 2001 - just for fun

England, Manchester and a couple more, 1994 & 1996 - for visiting my big brother and for fun

SELECTED PRESENTATIONS:

Invited lectures:

2019, May, 16, Uzunlomasina Veri Analizine Giris ve Model Ornekleri (Introduction to Longitudinal Data Analysis and Model Examples), Gazi

University, SESHAT Psikometride Biyometrik ve Boylamsal Arastirmalar Grubu

2012, May, 17, 14:00-17:30, Introduction to R and GGobi, in SIAM workshop on "What would you do with all this data?", METU.

2010, December, 24, Introduction to Statistical Analysis of Microarray Data with R (in Turkish), in "3rd Microarray Training and Data Analysis Course", METU, Central Laboratory, Molecular Biology and Biotechnology R&D Center

2010, February, 13, Etki Analizi, Izmir Kalkinma Ajansi

2009, September 28-October 1, Panel Veri Analizi (Panel Data Analysis, in Turkish), TUIK (TURKSTAT)

2009, July, 1, Introduction to Statistical Analysis of Microarray Data (in Turkish), in "2nd Microarray Training and Data Analysis Course", METU, Central Laboratory, Molecular Biology and Biotechnology R&D Center

2009, May, 28, R Uygulamalari, Ondokuz Mayis University, Samsun, in Workshop on "Applications of Dose-Response Model with R".

2008, March, 12, Biyoistatistik, Ankara University.

2007, August, 21, Panel Data Analysis, METU, New Advances in Statistics Graduate Summer School.

2006, November, 30, Bayesian Data Analysis, METU, Informatics Institute

Invited seminars:

2010, December, 10, Introduction to Longitudinal Data Analysis, Ankara University, Department of Statistics

2010, November, 9, Introduction to Longitudinal Data Analysis and an Application to Istanbul Stock Exchange Data, METU, Institute of Applied Mathematics

2007, January, 25, Exploratory Data Analysis and Models for Multivariate Longitudinal Data, 4th EMR-IBS Conference, Israel

LANGUAGE:

Turkish (Native Language)

English (Recently taken exams:

Exam Title; Date taken; Grade

Translation from English to Turkish and Turkish to English; July 2010; Pass

UDS; March 2008; 92.5/100

KPDS; Nov. 2004 ; 92/100

METU Proficiency Test; Sept. 2004; 91.5/100

METU Oral Exam; Sept. 2004; Pass

"Why did you take so many exams?" you ask? No, I am not addicted to them.

Apparently it is almost as difficult as getting a PhD in USA to convince people that I do, in fact, know English.)

AWARDS, GRANTS AND HONORS:

20 years of service award from METU (2017)

Academic performance awards from METU - Ranked among the top 20% within the faculty for the activities during the last three years (2008 & 2010 & 2014)

Teaching recognitions - Ranked among the top 20% within the faculty of Arts and Science in student evaluations (2005 & 2007 & 2008 & 2009 & 2011 & 2012 & 2013) & Ranked first within the faculty of Arts and Science in student evaluations (Spring 2015)

Best y-BIS Paper Award - Dag, O., Asar, O., Ilk, O. Estimating Box-Cox Power Transformation Parameter Via Goodness-of-Fit Tests. y-BIS 2013: Joint Meeting of Young Business and Industrial Statisticians in Istanbul, Turkey (2013).

Research grant from TUBITAK for a COST (European Cooperation in Science and Technology) project - Co-investigator in a research project directed by Assoc. Prof. Hilal Ozdag (Ankara University, Biotechnology Institute) (2013-)

Co-author of a study that received the 3rd place among oral presentations- Dungul DC, Belder N, Rajabli F, Inan G, Savas B, Ensari A, Kuzu A, Gecim E, Ilk O, Ilk HG, Ozdag H. (2011) Aile Temelli Genom Boyu Asosiyasyon Calismasi ile Sporadik Kolorektal Kanserde Yeni Yatkinlik Genlerinin Tanimlanmasi, XII.

Ulusal Tıbbi Biyoloji ve Genetik Kongresi, Türkiye Klinikleri Tıp Bilimleri Dergisi, pp. 35.

Research grant from TUBITAK - Co-investigator in a research project directed by Assoc. Prof. Hilal Ozdag (Ankara University, Biotechnology Institute) (2008-2011)

Co-author of a poster presentation that received "Young Participant Award" - Gungor, E., Egin, Y., Ilk, O., Akar, N. (2008) Faktor V 1691 G-A Mutasyonunun Yas Degisimi ile Iliskisi ve Pediatrik Trombozda Riskli Yas Gruplarinin Belirlenmesi. XXXIV. Ulusal Hemotoloji Kongresi, page 181 [poster].

Partial travel grant from TUBITAK - To attend ISTKON5 conference in Antalya, Turkey (2007)

Research grant from TUBITAK - Co-investigator, together with Assist. Prof. Ozlen Konu, in a research project directed by Assoc. Prof. Isik Yulug (Bilkent, Dept. of Molecular Biology and Genetics) (2007 & 2008)

Research grant from TUBITAK - Co-investigator, together with Assoc. Prof. Isik Yulug, in a research project directed by Assist. Prof. Ozlen Konu (Bilkent, Dept. of Molecular Biology and Genetics) (2007 & 2008)

Research grant from TUBITAK (The Scientific and Technological Research Council of Turkey) - Principle investigator of a research project, 36,564 YTL (~ 19,000 Euro) (2006)

Research grant from METU - new faculty start-up grant, 5,000 YTL (~ 2,600 Euro) (2005)

Travel grant from European Union - To attend European young statisticians training camp to the 25th European Meeting of Statisticians and 25th European Meeting of Statisticians (the only recipient from Turkey) (2005)

Scholarship from Turkish Higher Educational Council and METU for M.S. and Ph.D. studies at ISU (1998-2003)

Graduated in 3.5 years as a High Honor Student from METU (1997), ranked 2nd in a class of 117.