

# SELÇUK KORKMAZ, PH.D.

## Academic Resume

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### BRIEF SUMMARY

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I am a Ph.D. in the Department of Biostatistics. My research interests are focused on machine learning, epigenetics, proteomics and computer-aided drug design. I studied and completed my master at Ege University Department of Biostatistics in 2011 and I have developed new approaches for assessment of bioequivalence studies using nonlinear mixed-effects models. I worked as a visiting scientist at RCSB Protein Data Bank (at University of California, San Diego) and have developed new approaches for the evaluation of biological assemblies and protein-protein interfaces. I completed my Ph.D. under supervision of Prof. Dr. Osman Saraçbaşı and Dr. Peter W. Rose in 2016 at Hacettepe University Department of Biostatistics.

### EDUCATION

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2012- 2016	Ph.D.	Department of Biostatistics, Hacettepe University  Thesis: A Novel Method for Prediction of Biological Assemblies and Protein-Protein Interfaces
2009- 2011	M.Sc.	Department of Biostatistics and Medical Informatics, Ege University  Thesis: The Use of Nonlinear Mixed Effects Models in Bioequivalence Studies
2004- 2008	B.Sc.	Department of Statistics, Ege University

## ACADEMIC EXPERIENCE

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2017- present	Assistant Professor	Department of Biostatistics and Medical Informatics, Trakya University
2015- 2016	Visiting Scholar	RCSB Protein Data Bank, San Diego Supercomputer Center, University of California San Diego
2012- 2017	Research Assistant	Department of Biostatistics, Hacettepe University

## RESEARCH INTERESTS

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Machine Learning, Proteomics, Genetics, Computer-Aided Drug Design

## LANGUAGE AND COMPUTER SKILLS

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English: Proficient

LaTeX-LyX: Excellent

R-SPSS-Statistica-Minitab-NCSS-PASS-GPower-MedCalc: Excellent

Python-Matlab-SAS- Orange-Weka-RapidMiner: Intermediate

HTML-CSS-JavaScript-jQuery-AngularJS: Good

Java: Beginner

## AWARDS, GRANTS AND HONORS

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1. Best oral presentation: Korkmaz S, Zararsız G, Güksülük D, Süt N “Machine Learning Based Virtual Screening in Drug Discovery” XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.
2. Second best oral presentation: Zararsız G, Güksülük D, Kormaz S, Eldem V, Klaus B, Öztürk A “MLSeq 2.0: Machine Learning Interface for RNA Sequencing Data” XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.
3. Second best poster presentation: Durmuşçelebi A, Zararsız G, Kormaz S, Bilgin H, Güksülük D, Ertürk-Zararsız G, Elmalı F, Öztürk A “2x2 Tablolar için

Kapsamlı Bir Web Yazılımı” XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017

4. Best oral presentation: Goksuluk D, Korkmaz S, Zararsiz G, Karaagaoglu AE “compSurv: compSurv: Sağlık Analizi için Web-Tabanlı Interaktif Bir Yazılım”, 18th National Biostatistics Congress, 10-12 September 2016, Antalya, Turkey.
5. TÜBİTAK, 2214/A International Research Fellowship Program: RCSB Protein Data Bank, San Diego Supercomputer Center, University of California San Diego, California/USA
6. Best oral presentation: International Conference on Bioinformatics and Computational Biology, 2015, China
7. Gevher Nesibe Research Award: Erciyes University Faculty of Medicine, 2015, Kayseri/Turkey.
8. Young Statistician’s Showcase Prize: Zararsiz G, Goksuluk D, Korkmaz S, Eldem V, Unver T, Ozturk A “Classification of RNASeq Data via Bagging Support Vector Machines”, XXVII International Biometric Conference, 6-11 July 2014, Florence, Italy.
9. Gevher Nesibe Research Award: Zararsiz G, Goksuluk D, Korkmaz S, Eldem V, Unver T, Ozturk A “Yeni Nesil Dizileme Sistemleri için Veri Madenciliği Aracı” 2014.
10. Best oral presentation: Zararsiz G, Goksuluk D, Korkmaz S, Eldem V, Unver T, Ozturk A “RNA-Dizileme Verileri ile Gen Ekspresyonuna Dayalı Sınıflandırmada Yeni Bir Yaklaşım ve MLSeq R/BIOCONDUCTOR Yazılımı”, 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.

## **PROJECTS**

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1. TUBITAK Project (1512) “User-Friendly Personalized Cloud-Based Statistical Software System”, 2017 (12 Months)
2. TUBITAK Project (3001) “Hamsi Balığı (*Engraulis encrasicolus* L., 1758) Genomunun Mate-Pair Dizileme Yaklaşımı ile Geliştirilmesi”, (2017) (24 Ay)
3. TUBITAK Project “A Novel Method for Prediction of Biological Assemblies and Protein-Protein Interfaces”, University of California San Diego, Supercomputer Center. Project coordinator: Peter W. Rose. 2015. (12 months).

4. Erciyes University Scientific Research Project “Novel Machine Learning Approaches for Classification of RNA-Seq Data”, ID:5468. Project coordinator: Ahmet Ozturk. 2015. (24 months).

## PUBLICATIONS

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1. **Korkmaz S**, Duarte JM, Prlic A, Goksuluk D, Zararsiz G, Saracbası O, Burley SK, Rose PW. (2018) "Investigation of Protein Quaternary Structure via Stoichiometry and Symmetry Information", PLOS ONE (Accepted/In Press)
2. Singh SP, Janjuha S, Chaudhuri S, Reinhardt S, Dietz S, Eugster A, Bilgin H, **Korkmaz S**, Reid JE, Zararsız G, Ninov N (2018) "Machine learning based classification of cells into chronological stages using single-cell transcriptomics", bioRxiv 303214; <https://doi.org/10.1101/303214>
3. **Korkmaz S**, Goksuluk D, Zararsiz G, Karahan S. (2017) “geneSurv: An interactive web-based tool for survival analysis in genomics research” Computers in Biology and Medicine, 89(2017), 487-496.
4. Zararsiz G, Göksülük D, **Korkmaz S**, Eldem V, Zararsız GE, Duru İP, Öztürk A (2017) "A comprehensive simulation study on classification of RNA-Seq data" PLOS ONE 12(8): e0182507.
5. Zararsız G, Göksülük D, Klaus B, **Korkmaz S**, Eldem V, Karabulut E, Öztürk A (2017) "voomDDA: Discovery of diagnostic biomarkers and classification of RNA-seq data" PeerJ, 5:e3890.
6. Bal C, Öztürk A, Çiçek B, Özdemir A, Zararsız G, Ünalın D, Ertürk ZG, **Korkmaz S**, Göksülük D, Eldem V, İsmailoğulları S (2017) “The Relationship Between Blood Pressure And Sleep Duration In Turkish Children: A Cross-Sectional Study” Journal of clinical research in pediatric endocrinology.
7. Zararsiz G, Ertürk-Zararsiz G, Ozturk A, Goksuluk D, **Korkmaz S**, Eldem V, Karaca H and Tasci T (2017) "Genome Wide Gene Expression Profiling and Molecular Classification of Renal Cell Cancer Subtypes" Journal of Advances in Information Technology, 8(1):10-16.
8. Göksülük D, **Korkmaz S**, Zararsız G, Karaağaoğlu AE (2016) "easyROC: An Interactive Webtool for ROC Curve Analysis Using R Language Environment" The R Journal, 8(2):213-230.

9. Zararsiz G, Goksuluk D, **Korkmaz S**, Ozturk A, Akyildiz HY (2016) "Statistical learning approaches in diagnosing patients with nontraumatic acute abdomen" Turkish Journal of Electrical Engineer and Computer Science 24, 3685-3697.
10. Zararsız G, **Korkmaz S**, Gökşülük D, Eldem V, Öztürk A. (2015) "Diagonal Discriminant Analysis for Gene-Expression Based Tumor Classification" Journal of Advances in Information Technology 6(2), 59-62., doi: 10.12720/jait.6.2.59-62
11. **Korkmaz S**, Zararsiz G and Goksuluk D (2015) "MLViS: A Web Tool for Machine LearningBased Virtual Screening in Early-Phase of Drug Discovery and Development" PLoS ONE 10(4): e0124600
12. **Korkmaz S**, Goksuluk D and Zararsiz G (2014) "MVN: An R Package for Assessing Multivariate Normality" The R Journal 6(2), 151-162.
13. **Korkmaz S**, Zararsiz G and Goksuluk D (2014) "Drug/Nondrug Classification Using Support Vector Machines with Various Feature Selection Strategies" Computer Methods and Programs in Biomedicine 117(2), 51-60. DOI: <http://dx.doi.org/10.1016/j.cmpb.2014.08.009>
14. Zararsiz G, Goksuluk D, **Korkmaz S**, Eldem V, Duru İP, Ünver T, Öztürk A (2014) "Classification of RNASeq Data via Bagging Support Vector Machines" bioRxiv. DOI: <http://dx.doi.org/10.1101/007526>
15. Ikin Z, Perente I, Ozkaya A, Alp D, Agca A, Aygit ED, **Korkmaz S**, Yazici AT, Demirok A (2014) "Comparison of Efficacy Between Low-fluence and Half-dose Verteporfin Photodynamic Therapy for Chronic Central Serous Chorioretinopathy" Journal of Clinical Ophthalmology 2014(8), 685-690. DOI: <http://dx.doi.org/10.2147/OPHTH.S58617>
16. **Korkmaz S** and Orman MN (2012) "The Use of Nonlinear Mixed Effects Models in Bioequivalence Studies: A Real Data Application" Journal of Bioequivalence and Bioavailability. DOI: <http://dx.doi.org/10.4172/scientificreports.512>

## CONFERENCE PROCEEDINGS (INTERNATIONAL)

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1. Eldem V, Zararsız G, **Kormaz S**, Gökşülük D, Ertürk-Zararsız G, Bilgin H, Öztürk A "A Glimse at Long-read Sequencing and Megabase-sized Scaffolding Approaches" XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.

2. Zararsız G, Güksülük D, **Korkmaz S**, Eldem V, Klaus B, Öztürk A “MLSeq 2.0: Machine Learning Interface for RNA Sequencing Data” XIX. National and II. International Biostatistics Congress, Antalya, 25-28 Ekim 2017.
3. **Korkmaz S**, Zararsız G, Göksülük D, Süt N “Machine Learning Based Virtual Screening in Drug Discovery” XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.
4. Bilgin H, Zararsız G, Özkaya V, Çiçek B, Ertürk-Zararsız G, **Korkmaz S**, Göksülük D, Öztürk A “Improved Estimation of Body Fat Percentage via Machine Learning” XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.
5. **Korkmaz S**, Ozturk A, Çiçek B, Ercieys DÜ, Zararsız G, Zararsı GE, Goksuluk D, Mazıcıoğlu M “The Relationship Between Blood Pressure and Sleep Duration in Turkish Children: A Cross-Sectional Study” 5th AGP/FM SEE Conference, 25-28 Mayıs 2017, Budva/Karadağ.
6. Ozturk A, Çiçek B, Zararsız G, Zararsı GE, Ercieys DÜ, **Korkmaz S**, Goksuluk D, Mazıcıoğlu M “Association of Internet Addiction and Depression In Graduate Students” 5th AGP/FM SEE Conference, 25-28 Mayıs 2017, Budva/Karadağ.
7. Ozturk A, Çiçek B, Zararsız G, **Korkmaz S**, Goksuluk D, Mazıcıoğlu M “Wrist Circumference and Frame Size Percentiles in 6-17-Year Old Turkish Children and Adolescents in Kayseri” 5th AGP/FM SEE Conference, 25-28 Mayıs 2017, Budva/Karadağ.
8. Zararsız G, Akyildiz HY, Goksuluk D, **Korkmaz S**, Ozturk A, Karahan S, Karaismailoglu E "DDNAA: Decision Support System for Differential Diagnosis of Nontraumatic Acute Abdomen", The R User Conference 2015, Haziran 30 - Temmuz 3 2015, Aalborg/Danimarka.
9. Goksuluk D, **Korkmaz S**, Zararsız G, Karahan S, Karaagaoglu AE "easyROC: an interactive webtool for ROC analysis", The R User Conference 2015, Haziran 30 - Temmuz 3 2015, Aalborg/Danimarka.
10. Zararsız G, Goksuluk D, **Korkmaz S**, Eldem V, Duru IP, Unver T, Ozturk A "MLSeq: Machine Learning Interface for RNA-Seq Data", The R User Conference 2015, Haziran 30 - Temmuz 3 2015, Aalborg/Danimarka.
11. **Korkmaz S**, Goksuluk D, Zararsız G, "MLViS: A Web Tool for Machine Learning-Based Virtual Screening in Early-Phase of Drug Discovery and Development",

- 8th conference of the Eastern Mediterranean Region of the International Biometric Society (EMR-IBS), 11-15 Mayıs 2015 Nevşehir, Türkiye.
12. Goksuluk D, Zararsiz G, **Korkmaz S**, Karaagaoglu E "Negative Binomial Linear Discriminant Analysis For The Classification Of Rna-Seq Data", 8th conference of the Eastern Mediterranean Region of the International Biometric Society (EMR-IBS), 11-15 Mayıs 2015 Nevşehir, Türkiye.
  13. Zararsiz G, Akyildiz HY, Goksuluk D, **Korkmaz S**, Ozturk A "Statistical Learning Approaches In Diagnosing Patients With Nontraumatic Acute Abdomen", 8th conference of the Eastern Mediterranean Region of the International Biometric Society (EMR-IBS), 11-15 Mayıs 2015 Nevşehir, Türkiye.
  14. Zararsiz G, Eldem V, **Korkmaz S**, Göksülük D, Duru IP, Unver T, Karabulut E, Öztürk A "Diagonal Discriminant Analysis For Gene-Expression Based Tumor Classification", International Conference on Bioinformatics and Computational Biology (ICBCB 2015), 12-13 Mart 2015 Hong Kong.
  15. Yamasan BE, **Korkmaz S**, Palabiyik O "Investigation of Angiotensinogen M235T and T174M Gene Polymorphisms in Coronary Artery Disease" Annual Meeting of German Biophysical Society, 14-17 Eylül 2014, Lübeck, Almanya.
  16. **Korkmaz S**, Zararsiz G, Goksuluk D, Saracbası O "Homology Modeling Using Machine Learning Approach", XXVII International Biometric Conference, 6-11 Temmuz 2014, Floransa, İtalya.
  17. Zararsiz G, Goksuluk D, **Korkmaz S**, Eldem V, Unver T "Classification of RNASeq Data via Bagging Support Vector Machines", XXVII International Biometric Conference, 6-11 Temmuz 2014, Floransa, İtalya.
  18. Goksuluk D, **Korkmaz S**, Zararsiz G, Karaagaoglu AE "Ensemble Machine Learning Approach for Biomarker Discovery using Mass-Spectrometry based Proteomics Data", XXVII International Biometric Conference, 6-11 Temmuz 2014, Floransa, İtalya.
  19. **Korkmaz S**, Zararsiz G and Dalkara S "Drug/Non-Drug Classification Using Machine Learning" International Multidisciplinary Symposium on Drug Research and Development, 28-30 Kasım 2013, Antalya, Türkiye
  20. **Korkmaz S**, Göksülük D, Zararsiz G "bbRVM: an R package for Ensemble Classification Approaches of Relevance Vector Machines" The R User Conference 2013, 9-12 Temmuz 2013, Albacete, İspanya.

21. Arslankoz S, **Korkmaz S**, Netto GJ, Baydar DE. "Immunoexpression of mTOR Pathway Members in Non-Invasive Papillary Urothelial Neoplasms of Bladder" Annual Meeting Abstracts, Şubat 2013, ABD
22. **Korkmaz S** and Orman MN "The Use of Nonlinear Mixed Effects Models in Bioequivalence Studies: A Real Data Application" 26th International Biometric Conference, 26-31 Ağustos 2012, Kobe, Japonya.
23. **Korkmaz S** and Orman MN "A Simulation Study Based on Nonlinear Mixed Effects Models" 6th EMR-IBS Conference, 8-12 Mayıs 2011, Girit, Yunanistan.

## **PUBLICATIONS IN NATIONAL JOURNALS**

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1. İnal MT, Memiş D, İnal V, Uyar AŞ, Tek ŞÇ, Çiftçi T, Efe S, **Korkmaz S** (2018) "Evaluation of predelirium score in intensive care patients" Turk J Intense Care (Accepted/In Press).
2. Öner N, Caferoğlu Z, **Korkmaz S**. (2017) "Üniversite Öğrencilerinde Düzenli Kahvaltı Tüketimi ile Antropometrik Ölçümler Arasındaki İlişki" Journal of Health Sciences, 2017; 26: 153-158.

## **CONFERENCE PROCEEDINGS (NATIONAL)**

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1. Çavuşoğlu M, Zararsız G, Ertürk-Zararsız G, **Kormaz S**, Güksülük D, Mazıcıoğlu M, Öztürk A "GAMLSS Modellerinin Model Yeterliliğinin Belirlenmesinde Worm Eğrileri" XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.
2. Durmuşçelebi A, Zararsız G, **Kormaz S**, Bilgin H, Güksülük D, Ertürk-Zararsız G, Elmalı F, Öztürk A "2x2 Tablolar için Kapsamlı Bir Web Yazılımı" XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.
3. Ünlüsavuran M, Zararsız G, İpekten F, Ertürk-Zararsız G, **Korkmaz S**, Göksülük D, Doğan HO, Eldem V, Öztürk A "Metabolomik Verilerin Sınıflandırılmasında Kısmi En Küçük Kareler Ayırma Analizi Yaklaşımı" XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.
4. İpekten F, Zararsız G, Ünlüsavuran M, Ertürk-Zararsız G, **Korkmaz S**, Göksülük D, Doğan HO, Eldem V, Öztürk A "Metabolomik Biyobelirteçlerin Tespitinde ANOVA-PCA Yaklaşımı" XIX. National and II. International Biostatistics Congress, Antalya, 25-28 October 2017.



5. Göksülük D, **Korkmaz S**, Zararsız G, Karahan S. "compsurv: Sağlık Analizi İçin Web-Tabanlı Interaktif Bir Yazılım", XVII. National and I. International Biostatistics Congress, Antalya, 26-29 October 2016.
6. Öztürk A, Zararsız G, Çiçek B, Mazıcıoğlu MM, Ertürk-Zararsız G, Ünlüsavuran M, Göksülük D, **Korkmaz S**, Kurtoğlu S "Kayseri'de 6-17 Yaş Arasındaki Çocukların Vücut Bileşenlerinin Değerlendirmesinde Hattori Grafiği Uygulaması" XVII. National and I. International Biostatistics Congress , Antalya, 26-29 October 2016.
7. Ünlüsavuran M, Zararsız G, Ertürk-Zararsız G, Göksülük D, **Korkmaz S**, Kavcu BO, Öztürk A "Metabolomik Verilerinin Kümeleneğinde Danışmansız Random Forest Yaklaşımı" XVII. National and I. International Biostatistics Congress, Antalya, 26-29 October 2016.
8. **Korkmaz S**, Rose PW, Duarte JM, Prlic A, Göksülük D, Zararsız G, Saraçbaşı O "Protein Veri Tabanındaki Hatalı Yapıların Tespiti Ve Hata Oranının Belirlenmesi" XVII. National and I. International Biostatistics Congress, Antalya, 26-29 October 2016.
9. Zararsız G, **Korkmaz S**, Eldem V, Göksülük D, Ertürk-Zararsız E, Ünlüsavuran M, Öztürk A "Independent Hypothesis Weighting In Differential Expression Analysis Of Rna-Seq Data" XVII. National and I. International Biostatistics Congress, Antalya, 26-29 October 2016.
10. **Korkmaz S**, Göksülük D, Zararsız G "MVN: Çok Değişkenli Normal Dağılıma Uygunluğun Belirlenmesi için Bir R Paketi" 16th National Biostatistics Congress, 10-12 September 2014, Antalya.
11. **Korkmaz S**, Göksülük D, Zararsız G "MVN-web: Çok Değişkenli Normal Dağılıma Uygunluğun Belirlenmesi için Bir Web Uygulaması" 16th National Biostatistics Congress, 10-12 September 2014, Antalya.
12. **Korkmaz S**, Zararsız G, Göksülük D, Saraçbaşı O "Makine Öğrenimi Yaklaşımı ile Homolog Protein Tespiti" 16th National Biostatistics Congress, 10-12 September 2014, Antalya.
13. Göksülük D, Zararsız G, **Korkmaz S**, Eldem V, Duru İP "RNA-Dizileme Verilerinde Kullanılan Anlamlılık Testlerine İlişkin Hesaplama Sürelerinin Karşılaştırılması" 16th National Biostatistics Congress, 10-12 September 2014, Antalya.

14. Zararsız G, Eldem V, **Korkmaz S**, Göksülük D, Duru İP, Ünver T, Öztürk A “De-Brujin Grafikleri ile De-Novo Genom Dizileme Analizleri” 16th National Biostatistics Congress, 10-12 September 2014, Antalya.
15. Zararsız G, **Korkmaz S**, Göksülük D, Eldem V, Öztürk A “RNA Dizileme Verilerinin İstatistiksel Değerlendirilmesi” 16th National Biostatistics Congress, 10-12 September 2014, Antalya.
16. Zararsız G, Göksülük D, **Korkmaz S**, Eldem V, Duru İP, Ünver T, Öztürk A “RNADizileme Verileri ile Gen Ekspresyonuna Dayalı Sınıflandırmada Yeni Bir Yaklaşım ve MLSeq R/BIOCONDUCTOR Yazılımı” 16th National Biostatistics Congress, 10-12 September 2014, Antalya.
17. Göksülük D, **Korkmaz S**, Zararsız G, Karağaoğlu E “Kütle-Spektrometresine Dayalı Proteomik Verilerinin Ensemble Veri Madenciliği Yöntemleri İle Sınıflandırılması” 16th National Biostatistics Congress, 10-12 September 2014, Antalya.
18. Yamasan BE, Gülyaşar T, Sipahi T, **Korkmaz S**, Palabıyık O “Koroner Arter Hastalığında Anjiyotensinojen M235T ve T174M Gen Polimorfizimlerinin Araştırılması Ve Risk Faktörlerinin Belirlenmesi” 25th National Biophysics Congress, 24-27 September 2013, Trabzon.
19. **Korkmaz S**, Zararsız G, Coşgun E, Dalkara S, Saraçbaşı O “Drug/Non-Drug Classification Using Support Vector Machines with Various Feature Selection Strategies” 15. National Biostatistics Congress, 20-23 August 2013, Aydın, Turkey
20. **Korkmaz S** and Süt N “Dört Gözlü Kontenjans Tablolarında Yates Düzeltmeli Ki-Kare Testinin İncelenmesi: Simülasyon Çalışması”. 14. National Biostatistics Congress, 4-7 Eylül 2012, Kayseri
21. **Korkmaz S.** and Orman MN. “Doğrusal Olmayan Karma Etki Modelleri Üzerine Bir Simülasyon Çalışması”. 12. National Biostatistics Congress, 28 Haziran - 1 Temmuz 2010, Van