YESIM SERINAGAOGLU DOGRUSOZ

Orta Dogu Teknik Universitesi, Elektrik ve Elektronik Muh. Bol.,
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RESEARCH INTERESTS

Electrocardiographic imaging

- Modeling of electrical activity of the heart.
- Forward problem of electrocardiography.
- Inverse problem of electrocardiography using statistical estimation methods.

Biomedical signal and image processing

- Processing of ECG signals; feature extraction for arrhythmia classification; T-wave alternans.
- Snoring sound analysis for obstructive sleep apnea detection.
- Segmentation of medical images.

EDUCATION

Ph.D. in Electrical Engineering 1/1998 – 6/2003
Northeastern University, Boston, MA, USA
Thesis Title: Application of Bayesian Methods to Electrocardiography
Advisor: Prof. Dr. Dana H. Brooks

M.Sc. in Electrical and Electronics Engineering 9/1995 – 9/1997
Middle East Technical University, Ankara, Turkey
Thesis Title: Modeling and Spectral Analysis of T-Wave Alternans Time Series in the Electrocardiogram
Advisor: Prof. Dr. Y. Ziya Ider

B.S. in Electrical and Electronics Engineering 9/1991 – 7/1995
Middle East Technical University, Ankara, Turkey
Senior Project Title: Development of an ECG Simulator
Project Supervisor: Prof. Dr. Y. Ziya Ider

PROFESSIONAL WORK EXPERIENCE

Associate Professor 10/2012 – present
Electrical and Electronics Engineering Department
Middle East Technical University, Ankara, Turkey

Affiliated Faculty 2004 – present
Graduate School of Applied Mathematics
Scientific Computing Graduate Program
Middle East Technical University, Ankara, Turkey

Affiliated Faculty 2006 – present
Graduate School of Natural and Applied Sciences
Biomedical Engineering Graduate Program
Middle East Technical University, Ankara, Turkey

Assistant Professor 6/2004 – 10/2012
Electrical and Electronics Engineering Department
Middle East Technical University, Ankara, Turkey

Instructor 4/2003 – 5/2004
Electrical and Electronics Engineering Department
Middle East Technical University, Ankara, Turkey

Research Assistant 1/2001 – 12/2002
NIH National Center for Research Resources (NCRR), Center for Bioelectric Field Modeling, Simulation and Visualization
Northeastern University, Boston, MA, USA
Biomedical Signal Processing Laboratory
(Center headquarters at University of Utah)

Research/Teaching Assistant 9/1995 – 1/1998
Electrical and Electronics Engineering Department
Middle East Technical University, Ankara, Turkey

PROFESSIONAL SERVICE EXPERIENCE

Coordinator of the Bioelectric Track 9/2017 – present
Biomedical Engineering Graduate Program 1/2007 – 1/2009
Graduate School of Natural and Applied Sciences
Middle East Technical University, Ankara, Turkey

Member of the Departmental Undergraduate Education Committee 6/2013 – present
Electrical and Electronics Engineering Department
Middle East Technical University, Ankara, Turkey

Member of the Undergraduate Education Committee 2/2013 – present
Faculty of Engineering
Middle East Technical University, Ankara, Turkey

Ad hoc panel member and reviewer for academic and industrial grant applications 2009 – present
Scientific and Technological Research Council of Turkey (TUBITAK), Ankara, Turkey

Ad hoc reviewer for academic journals 2004 – present
IEEE Transactions on Biomedical Engineering, IEEE Transactions on Medical Imaging, Inverse Problems in Science and Engineering, Physiological Measurement, Journal of Computational and Applied Mathematics, Journal of Computational Science, Machine Learning, Mathematical Modelling and Analysis, Turkish Journal of Electrical Engineering & Computer Sciences, Computers in Biology and Medicine.

Member of the University Strategic Planning Committee for Undergraduate Education 10/2016 – 4/2017
Middle East Technical University, Ankara, Turkey

Member of the Strategic Planning Committee for Research in Biomedical Engineering 11/2015 – 3/2017
Middle East Technical University, Ankara, Turkey

Member of the Faculty Executive Committee 2/2011 – 10/2012
Faculty of Engineering
Middle East Technical University, Ankara, Turkey

Member of the organization committee of the National Conference in Biomedical Engineering (BIYOMUT) 2008
Middle East Technical University, Ankara, Turkey

Founding Member of Biomedical Engineering Graduate Program (Bioelectric Track) 2005 – present
Graduate School of Natural and Applied Sciences
Middle East Technical University, Ankara, Turkey

AWARDS AND FELLOWSHIPS

Best Thesis Award for the MSc Thesis of Mustafa Cavusoglu 2006 – 2007
"An efficient fast method of snore detection for sleep disorder investigation" Academic Year
Graduate School of Natural and Applied Sciences
Middle East Technical University, Ankara, Turkey

Graduate Fellowship from Turkish Higher Education Council 1/1998 – 12/2000
Awarded to support international PhD studies of future faculty for Turkish Universities.
Northeastern University, Biomedical Signal Processing Laboratory, Boston, MA, USA

PROFESSIONAL MEMBERSHIPS

IEEE 1993 – present

TEACHING EXPERIENCE

Undergraduate Courses

Circuit Theory I
Second Year Required Course

Circuit Theory II
Second Year Required Course

Semiconductor Devices and Modeling
Second Year Required Course

Electrical Circuits
Second Year Required Course for Comp. Eng. Department

Introduction to Medical Imaging
Fourth Year Technical Elective Course

Biomedical Signals, Instrumentation and Measurement
Fourth Year Technical Elective Course

Graduate Courses

Bioelectricity and Biomagnetism	Medical Imaging
Therapeutic and Prosthetic Devices in Biomedical Engineering	Introduction to Biomedical Engineering (Biomedical Engineering Graduate Prog.)
Physiological Control Systems Analysis	

THESES SUPERVISED

PhD Students

1. Ceren Bora, "Detection and quantification of atrial fibrillation from surface electrocardiograms," Graduate Program of Biomedical Engineering, METU, expected date of graduation: 2018-2019 Spring Semester
2. Önder Nazım Onak, "The electrocardiographic inverse problem," Graduate School of Applied Mathematics, METU, expected date of graduation: 2017-2018 Spring Semester
3. Fourough Gharbalchi No (co-supervisor), "Automatic evaluation of pain-related facial expressions in mice," Graduate Program of Biomedical Engineering, METU, expected date of graduation: 2019-2020 Spring Semester (supervised by Dr. Ugur Halici)

MSc Students

1. Taha Erenler, "Statistical estimation methods applied to inverse problem of ECG," Electrical and Electronics Engineering, METU, expected date of graduation: 2017-2018 Spring Semester
2. Erdem Yanar, "Reduction of false arrhythmia alarms on patient monitoring systems in intensive care units by using fuzzy logic algorithms," Electrical and Electronics Engineering, METU, 2018
3. Görkem Polat, "Classification of lung nodules in CT images using convolutional neural networks," Electrical and Electronics Engineering, METU, 2018 (co-supervised by Dr. Ugur Halici)
4. Sahar Habibiabad, "A new MEMS approach for spirometers," Graduate Program of Biomedical Engineering, METU 2016 (co-supervised by Dr. M. İlker Beyaz)
5. Muharrem Demiray, "A novel method for the quantification of coronary artery stenosis: a 2D QCA system," Electrical and Electronics Engineering, METU, 2015 (co-supervised by Dr. Tulga Ulus)
6. Mohammadreza Robaei, "Design and implementation of an ECG front end circuit," Electrical and Electronics Engineering, METU, 2015
7. Mir Mehdi Seyedebrahimi, "Simulation of transmembrane potential propagation in three dimensional ventricular tissue using Aliev Panfilov model," Graduate Program of Biomedical Engineering, METU 2015 (co-supervised by Dr. Ferhat Eyyüpkoca)
8. Gizem Bedir, "Forward problem of electrocardiography in terms of 3D transmembrane potentials using COMSOL," Graduate Program of Biomedical Engineering, METU 2015 (co-supervised by Dr. Barbaros Çetin)
9. Fourough Gharbalchi No, "Body surface lead reduction algorithm and its use in inverse problem of electrocardiography," Graduate Program of Biomedical Engineering, METU, 2015 (co-supervised by Dr. Gerhard Wilhelm Weber)

10. Alperen Güçlü, "Comparison of five regularization methods for the solution of inverse electrocardiography problem," Electrical and Electronics Engineering, METU, 2013

11. Ersin Karcı, "Detection of post apnea sounds and apnea periods from sleep sounds," Electrical and Electronics Engineering, METU, 2011 (co-supervised by Dr. Tolga Çiloğlu)

12. Ali Reza Mazloumi Gavgani, "Use of genetic algorithm for selection of regularization parameters in multiple constraint inverse ECG problem," Electrical and Electronics Engineering, METU, 2011

13. Sinan Öz, "Implementation of three segmentation algorithms for CT images of torso," Electrical and Electronics Engineering, METU, 2011

14. Ceren Bora, "A cellular automaton based electromechanical model of the heart," Graduate Program of Biomedical Engineering, METU, 2010 (co-supervised by Dr. Ergin Tönük)

15. Ali Bircan, "Solution of inverse electrocardiography problem using minimum relative entropy method," Electrical and Electronics Engineering, METU, 2010

16. Sedat Sarıkaya, "Combination of conventional regularization methods and genetic algorithms for solving the inverse problem of electrocardiography," Graduate School of Applied Mathematics, METU, 2010 (co-supervised by Dr. Gerhard Wilhelm Weber)

17. Ümit Aydın, "Solution of inverse problem of electrocardiography using state-space models," Electrical and Electronics Engineering, METU, 2009

18. Bengi Koç, "Detection and classification of QRS complexes from the ECG recordings," Electrical and Electronics Engineering, METU, 2008

19. Murat Önal, "Evaluation of spatial and spatio-temporal regularization approaches in inverse problem of electrocardiography," Electrical and Electronics Engineering, METU, 2008

20. Mustafa Çavuşoglu, "An efficient fast method of snore detection for sleep disorder investigation," Electrical and Electronics Engineering, METU, 2007

21. Volkan Tanrıverdi, "Removal of baseline wandering from the electrocardiogram," Electrical and Electronics Engineering, METU, 2006

22. Onur Ali Demirkol, "Segmentation of torso CT images," Electrical and Electronics Engineering, METU, 2006

23. Arda Kurt (co-supervisor), "Boundary element method formulation and its solution in forward problem of electrocardiography by using a realistic torso model," Graduate School of Applied Mathematics, METU, 2006 (supervisor: Gerhard Wilhelm Weber)

GRANTS

National Founding Agencies

Principal Investigator
Funding agency: Scientific and Technological Research Council of Turkey (TUBITAK); Grant No: 111E258; (168.775 TL) "Non-invasive Imaging of Electrical Activity of the Heart in terms of 3 Dimensional Transmembrane Potential Distributions," 4/2012 – 4/2015.

Principal Investigator
Funding agency: TUBITAK; Grant No: 105E070; (147,660.00 TL) "Inverse Electrocardiography: Statistical Estimation of Bioelectrical Sources of the Heart," 1/2007 – 1/2010.

University Internal Funding

Principal Investigator
METU BAP-2008-R-08-11-15 "Database Generation for Snoring Sound Analysis," 6/2008 – 5/2009.

Principal Investigator
METU BAP-2005-03-01-03 "Numerical Modeling of the Electrical Activity of the Heart," 1/2005 – 12/2006.

Principal Investigator
METU BAP-2004-03-01-01 "Solution of Forward and Inverse Electrocardiography Problems using Realistic Heart and Torso Models," 1/2004 – 12/2004.

PUBLICATIONS

International Peer-reviewed Journals

1. O. N. Onak, Y. Serinagaoglu Dogrusoz, G. W. Weber, "Effects of A Priori Parameter Selection in Minimum Relative Entropy Method on Inverse Electrocardiography Problem," Inverse Problems in Science and Engineering, vol. 26, no. 6, pp. 877 – 897, 2018.
2. U. Göreke, S. Habibiabad, K. Azgın, Y. Serinagaoglu Dogrusoz, M. I. Beyaz, "The Development and Performance Characterization of Turbine Prototypes for a MEMS Spirometer," IEEE Sensors Journal, vol. 16, no. 3, pp. 628 – 633, Feb. 2016.
3. F. Gharbalchi, Y. Serinagaoglu Dogrusoz, G. W. Weber, "Lanczos bidiagonalization-based inverse solution methods applied to electrical imaging of the heart by using reduced lead-sets: A simulation study," Cogent Mathematics, vol. 3, 2016.
4. O. N. Onak, Y. Serinagaoglu Dogrusoz, G. W. Weber, "Minimum relative entropy method for inverse electrocardiography problem," Problems of Nonlinear Analysis in Engineering Systems No.1(41), vol. 20, 2014.
5. Y. Serinagaoglu Dogrusoz, A. Mazloumi Gavgani, "Genetic algorithm-based regularization parameter estimation for the inverse electrocardiography problem using multiple constraints," Medical & Biological Engineering & Computing, vol. 51, no 4, pp. 367-375, 2013.
6. U. Aydin, Y. Serinagaoglu Dogrusoz, "A Kalman Filter Based Approach to Reduce the Effects of Geometric Errors and the Measurement Noise in the Inverse ECG Problem", Medical & Biological Engineering & Computing, vol. 49, no. 9, pp. 1003-1013, 2011.
7. M. Cavusoglu, T. Ciloglu, Y. Serinagaoglu, M. Kamasak, O. Erogul and T. Akcam, "Investigation of Sequential Properties of Snoring Episodes for Obstructive Sleep Apnoea Identification," Physiological Measurement, vol. 29, no. 8, pp. 879-898, 2008.
8. M. Cavusoglu, M. Kamasak, O. Erogul, T. Ciloglu, Y. Serinagaoglu and T. Akcam, "An Efficient Method for Snore/Nonsnore Classification of Sleep Sounds," Physiological Measurement, vol. 28, no. 8, pp. 841-853, 2007.
9. Y. Serinagaoglu, D.H. Brooks and R.S. MacLeod, "Improved Performance of Bayesian Solutions for Inverse Electrocardiography using Multiple Information Sources," IEEE Transactions on Biomedical Eng., vol. 53, no. 10, pp. 2024-2034, 2006.
10. Y. Serinagaoglu, D.H. Brooks and R.S. MacLeod, "Bayesian Solutions and Performance Analysis in Bioelectric Inverse Problems," IEEE Transactions on Biomedical Eng., vol. 52, no. 6, pp. 1009-1020, 2005.

11. Y. Serinagaoglu, R.S. MacLeod, B. Yilmaz, and D.H. Brooks, "Multielectrode venous catheter mapping as a high quality constraint for Electrocardiographic inverse solution," Journal of Electrocardiology, vol. 35 (suppl. 1), no. 4, pp. 65-73, 2002.

International Conferences

1. O. N. Onak, Y. Serinagaoglu Dogrusoz, G.-W. Weber, "Effect of the Geometric Inaccuracy in MARS-based Inverse ECG Solution Approach," Computing in Cardiology, Rennes, France, Sep. 24-27, 2017.

2. E. Yanar, Y. Serinagaoglu Dogrusoz, "Reducing False Arrhythmia Alarms of Patient Monitoring Systems in the Intensive Care Units," Computing in Cardiology, Rennes, France, Sep. 24-27, 2017.

3. M. Seyedebrahimi, Y. Serinagaoglu Dogrusoz, "Simulation of Transmembrane Potential Propagation in Normal and Ischemic Tissue Using Aliev-Panfilov Model," International Conference on Medical Information and Bioengineering (ICMIB 2016), Istanbul, Turkey, Nov. 2-5, 2016.

4. S. Habibiabad, Y. Serinagaoglu Dogrusoz, M. I. Beyaz, "Characterization and performance estimation of a MEMS spirometer," 30th Eurosensors Conference, Budapest, Hungary, Sep. 4-7 2016.

5. Y. Serinagaoglu Dogrusoz, "Estimation of Ectopic Foci in the Heart using Epicardial and Transmembrane Based Solutions of Inverse Electrocardiography," ECG Imaging Workshop, Bad Herrenalb, Karlsruhe, Germany, Mar. 25-28, 2015.

6. M. Robaei, Y. Serinagaoglu Dogrusoz and F. Küçükdeveci, "Conceptual Design and Evaluation of a Multichannel ECG Data Acquisition Device," 8th International Conference on Bio-inspired Systems and Signal Processing, Lisbon, Portugal, Jan. 12-15, 2015.

7. Y. Serinagaoglu Dogrusoz, "Statistical Approaches in Electrical Imaging of the Heart," IEEE International Symposium on Biomedical Imaging (ISBI), invited talk – special session, Beijing, China, Apr. 29 - May 2, 2014.

8. A. Mazloumi Gavgani and Y. Serinagaoglu Dogrusoz, "Noise Reduction Using 2D Anisotropic Diffusion Filter in Inverse Electrocardiography," XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013, Seville, Spain, Sep. 25-28, 2013.

9. C. Bora, Y. Serinagaoglu, E. Tönük, "A Cellular Automaton Based 2-D Electromechanical Heart Tissue Model," International Conference on Applied and Computational Mathematics (ICACM), Ankara, Turkey, Oct. 3-6, 2012.

10. A. Mazloumi Gavgani, Y. Serinagaoglu Dogrusoz, "Noise Reduction using Anisotropic Diffusion Filter in Inverse Electrocardiology," Annual International Conference of the IEEE EMBS, San Diego, California, USA, Aug. 30 - Sep. 3, 2012.

11. A. Mazloumi Gavgani, Y. Serinagaoglu Dogrusoz, "Use of Genetic Algorithm for Selection of Regularization Parameters in Multiple Constraint Inverse ECG Problem," Annual International Conference of the IEEE EMBS, Boston, MA, USA, Aug. 30 – Sep. 3, 2011.

12. E. Karci, Y. Serinagaoglu Dogrusoz, T. Ciloglu, "Detection of Post Apnea Sounds and Apnea Periods from Sleep Sounds," Annual International Conference of the IEEE EMBS, Boston, MA, USA, Aug. 30 – Sep. 3, 2011.

13. S. Sarikaya, G.-W. Weber, Y. Serinagaoglu Dogrusoz, "Combination of Conventional Regularization Methods and Genetic Algorithm for Solving the Inverse Problem of

Electrocardiography," International Symposium on Health Informatics and Bioinformatics, (HIBIT), Antalya, Turkey, Apr. 20-22, 2010.

14. U. Aydin, Y. Serinagaoglu, "Comparison of Bayesian MAP Estimation and Kalman Filter Methods in the Solution of Spatio-Temporal Inverse ECG Problem," World Congress on Medical Physics and Biomedical Engineering, Munich, Germany, IFMBE Proceedings, vol. 25/2, pp. 715-718, Sep. 7-12, 2009.

15. U. Aydin, Y. Serinagaoglu, "Statistical modeling of the geometric error in cardiac electrical imaging," IEEE International Symposium on Biomedical Imaging (ISBI), Boston, MA, USA, Jun. 28 - Jul. 1, 2009.

16. U. Aydin, Y. Serinagaoglu, "Imaging the electrical activity of the heart using a Kalman filter based approach: comparison of results using different STM's," IEEE International Symposium on Biomedical Imaging (ISBI), Boston, MA, USA, Jun. 28 - Jul. 1, 2009.

17. Umit Aydin, Yesim Serinagaoglu, "Use of Activation Time Based Kalman Filtering in Inverse Problem of Electrocardiography," 4th European Conference of the International Federation for Medical and Biological Engineering, Antwerp, Belgium, IFMBE Proceedings, vol. 22, pp. 1200-1203, Nov. 23–27, 2008.

18. M. Onal, Y. Serinagaoglu, "Spatio-Temporal Solutions in Inverse Electrocardiography," 4th European Conference of the International Federation for Medical and Biological Engineering, Antwerp, Belgium, IFMBE Proceedings, vol. 22, pp. 1200-1203, Nov. 23–27, 2008.

19. M. Cavusoglu, M. Kamasak, O. Erogul, T. Ciloglu, Y. Serinagaoglu, T. Akcam, "Spectral Envelope Analysis of Snoring Signals", 6th IASTED (The International Association of Science and Technology for Development) International Conference on Biomedical Engineering, Innsbruck, Austria, Feb., 2008.

20. M. Cavusoglu, M. Kamasak, O. Erogul, T. Ciloglu, T. Akcam, Y. Serinagaoglu, "SASA: A Software System for Sleep and Snoring Analsis," International Symposium on Health Informatics and Bioinformatics (HIBIT), Antalya, Turkey, Apr. 30 - May 2, 2007.

21. Y. Serinagaoglu, D. H. Brooks, and R. S. MacLeod, "A Bayesian Approach to Inclusion and Performance Analysis of Using Extra Information in Bioelectric Inverse Problems," Int. Conf. on Image Proc. (ICIP), IEEE, Barcelona, Spain, Sep. 14-17, 2003.

22. Y. Serinagaoglu, D. H. Brooks, and R. S. MacLeod, "Prior Model Selection for Bayesian Inverse Electrocardiography," NFSI 2003, Chieti, Italy, Sep. 10-13, 2003.

23. Y. Serinagaoglu, D. H. Brooks, and R. S. MacLeod, "Combining Numerical and Physiological Constraints in Inverse Electrocardiography," invited paper, 30th International Congress on Electrocardiology, Helsinki, Finland, Jun. 11-14, 2003.

24. Y. Serinagaoglu, D. H. Brooks, and R. S. MacLeod, "Enhancing inverse electrocardiography with sparse noisy measurements of epicardial potentials," Paper for Int. Conf. on Bioelectromagnetism, 2002 and Int. Journal of Bioelectromagnetism, vol. 4, no. 2, pp. 89-90, 2002.

25. Y. Serinagaoglu, D. H. Brooks, and R. S. MacLeod, "Including sparse noisy epicardial potential measurements into Bayesian inverse electrocardiography," invited paper, Annual International Conference of the IEEE EMBS, Houston, TX, 2002.

26. R. S. MacLeod, B. Yilmaz, B. Taccardi, B. Punske, Y. Serinagaoglu and D. H. Brooks, "Direct and inverse methods for cardiac mapping using multielectrode catheter measurements," Paper for NFSI 2001 and the J. Biomedizinische Technik, vol. 46(supp), pp. 207-208, 2001.

27. Y. Serinagaoglu, D. H. Brooks, S-F. Lin, T.J. Wu, "Bayesian Multiresolution MAP Estimation of Edge or Transition Point Location in Noisy Signals," Int. Conf. on Acoustics, Sig. and Speech Proc., IEEE, Istanbul, Turkey, 2000.

28. Y. Serinagaoglu, D. Sabuncuoglu, Y. Z. Ider, "Spectral Analysis of T-Wave Alternans Signal," Annual International Conference of the IEEE EMBS, Amsterdam, NL, 1996.

29. D. Sabuncuoglu, Y. Serinagaoglu, Y. Z. Ider, "Analysis of Heart Rate Variability during Standardized Exercise Testing," Annual International Conference of the IEEE EMBS, Amsterdam, NL, 1996.

National Conferences

1. Ceren Bora, Yeşim Serinağaoğlu Doğrusöz, Ezgi Polat Ocaklı, "Yüzey Elektrokardiyogramları ile Atriyal Sinyallerin Tespiti ve Nicelleştirilmesi (Detection and Quantification of Atrial Signals from Surface Electrocardiograms)," Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Seferihisar, İzmir, 3-5 Nov. 2016.

2. Önder Nazım Onak, Yeşim Serinağaoğlu Doğrusöz, Gerhard-Wilhelm Weber, "Çok Değişkenli Uyarlanabilir Regresyon Eğrilerinin Ters EKG Problemine Uygulanması (Application of Multivariate Adaptive Regression Splines for Inverse ECG Problem)," Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Seferihisar, İzmir, 3-5 Nov. 2016.

3. Mir Mehdi Seyedebrahimi, Yesim Serinağaoğlu Doğrusöz, Uğur Cünedioğlu, "Aliev-Panfilov Modeli Kullanılarak Normal ve Kısmi İskemik Dokularda Transmembran Potansiyellerinin Yayılımının Simülasyonu," BIYOMUT, İstanbul, Turkey, Oct. 2014.

4. Gizem Bedir, Yeşim Serinağaoğlu Doğrusöz, "COMSOL Çoklu Fizik Ortamı Kullanılarak Elektrokardiyografide İleri Problem Çözümü," TIPTEKNO, Antalya, Turkey, 2013.

5. Mohammadreza Robaei ve Yeşim Serinağaoğlu Doğrusöz, "Çok Kanallı EKG Veri Toplama Sistemi: Simülasyon ve Pratik Sonuçlar," TIPTEKNO, Antalya, Turkey, 2013.

6. Mehdi Seyedebrahimi, Uğur Cünedioğlu ve Yeşim Serinağaoğlu Doğrusöz, "Transmembran Potansiyel Dağılımlarının 3 Boyutlu Normal ve Kısmi İskemik Ventriküler Geometride Simülasyonu," TIPTEKNO, Antalya, Turkey, 2013.

7. Alireza Mazloumi Gavgani, Yeşim Serinağaoğlu Doğrusöz "Ters Elektrokardiyografi Probleminin Çoklu Kısıt Yöntemiyle Çözümünde Düzenlileştirme Parametresi Seçim Algoritmalarının Karşılaştırılması," 17. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), İstanbul, Turkey, 3-5 Oct. 2012.

8. S. Öz, Y. Serinağaoğlu Doğrusöz, "Havza Dönüşüm ve k-Means Kümeleme Algoritmaları Kullanarak Gövde BT Görüntüleri için Bölütleme Algoritma Uygulaması" 2. Tıp Teknolojileri Ulusal Kongresi – 16. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT 2011), Antalya, Turkey, 13-16 Oct. 2011.

9. Ali Bircan, Yeşim Serinağaoğlu "Minimum Göreceli (Çapraz) Entropi (MGE) Metodunun Ters EKG Probleminin Çözümünde Uygulanması," 15. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Antalya, Turkey, 21-24 Apr. 2010.

10. Alireza Mazloumi Gavgani, Yeşim Serinağaoğlu Doğrusöz "Elektrokardiyografi Ters Problemi için Grafik Kullanıcı Arayüzü," 15. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Antalya, Turkey, 21-24 Apr. 2010.

11. Umit Aydin, Yesim Serinagaoglu "Ters Elektrokardiyografinin Zaman-Uzamsal Çözümünde Kalman Filtre ve Bayes-MAP Yöntemlerinin Karşılaştırılması," 15. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Antalya, Turkey, 21-24 Apr. 2010.

12. Sinan Oz, Yesim Serinagaoglu "Eşikleme Metodunu Kullanarak Medikal Görüntü Serisinden Hızlı 3 Boyutlu Model Oluşturma," 15. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Antalya, Turkey, 21-24 Apr. 2010.

13. Ceren Bora, Yeşim Serinağaoğlu, Ergin Tönük "Hücresel otomaton yöntemi ile elektromekanik kalp doku modeli," 15. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Antalya, Turkey, 21-24 Apr. 2010.

14. Ümit Aydın, Yeşim Serinağaoğlu, "Ters EKG Probleminin Kalman Filtre ile Çözümünde Durum Geçiş Matrisinin Eğitici Kümeler Yardımı ile Kestirimi," 14. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), İzmir, Turkey, 20-24 May 2009.

15. Ümit Aydın, Yeşim Serinağaoğlu, "Kalman Filtre ve Bayes-MAP ile Ters EKG Çözümlerinde Geometrik Hataların Etkisi," 14. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), İzmir, Turkey, 20-24 May 2009.

16. Ümit Aydın, Yeşim Serinağaoğlu, "Geri elektrokardiyografi probleminde aktivasyon zamanına dayali Kalman filtreleme kullanımı," 13. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Ankara, Turkey, 29-31 May 2008.

17. Murat Önal, Yeşim Serinağaoğlu, "Geri elektrokardiografi probleminin zamansal-uzamsal düzenlileştirilmesi," 13. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Ankara, Turkey, 29-31 May 2008.

18. Eyüp Güler, Mustafa Çavuşoğlu, Mustafa Kamaşak, Yeşim Serinağaoğlu, Tolga Çiloğlu, Osman Eroğul "Tıkanmaya bağlı uyku apnesinin kestirimi için horlama seslerinin MDVP analizi," 13. Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), Ankara, Turkey, 29-31 May 2008.

19. M.Cavusoglu, M.Kamasak, O.Erogul, T.Ciloglu, Y.Serinagaoglu, H.Birkent "Tıkanmaya bağlı uyku apnesi hastaları ve basit horlayanlarda horlama seslerinin izgesel zarf incelemesi," Sinyal Isleme ve Iletisim Uygulamalari Kurultayi (SİU), Eskişehir, Turkey, 11-13 Jun. 2007.

20. M. Çavuşoğlu, M. Kamasak, Y. Ertas, T. Ciloglu, Y. Serinagaoglu, O. Erogul, S.Yetkin "Horlama seslerinin uyku safhalarına göre şiddet ve sıklık analizi," Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), İstanbul, Turkey, 22-23 May 2007.

21. Mustafa Cavusoglu, Mustafa Kamasak, Yesim Serinagaoglu,Timur Akcam, Sinan Yetkin, Fuat Ozgen, Osman Erogul, "Robust Regression Algoritması ile Horlama Seslerinin Tespit Edilmesi ve Klinik Uygulaması," 7. Ulusal Uyku Ve Bozuklukları Kongresi (Türk Uyku Araştırmaları Derneği), Bodrum, Turkey, 25-29 Oct. 2006.

22. Mustafa Cavusoglu, Mustafa Kamasak, Yesim Serinagaoglu, Timur Akcam, Osman Erogul, "Obstruktif Uyku Apnesi Hastaları İçin Horlama Seslerinin Spektogram Tabanlı Analizi," Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), İstanbul, Turkey, 25-27 May 2006.

23. Volkan Tanriverdi, Yeşim Serinağaoğlu, "Elektrokardiyografi Sinyalinden Eksen Kayması Gürültüsünün Kaldırılması," Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), İstanbul, Turkey, 25-27 May 2006.

24. Mustafa Cavusoglu, Yesim Serinagaoglu, Osman Erogul, "Obstruktif Uyku Apnesi (OSA) Hastaları İçin Horlama Seslerinin Analizi," Sinyal Isleme ve Iletisim Uygulamalari Kurultayi (SIU), Antalya, Turkey, 17-19 Apr. 2006.

25. O. A. Demirkol, Y. Serinağaoğlu, "Gerçekçi Gövde Modelleri Oluşturulabilmesi İçin Bilgisayarlı Tomografi Görüntülerinin Bölütlenmesi," Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), İstanbul, Turkey, 2005.

26. Y. Serinağaoğlu, D.H. Brooks, R.S. Macleod "Geri elektrokardiyografi probleminin Bayes yöntembilimi çerçevesinde değişik bilgi kaynaklari kullanilarak çözümü," Biyomedikal Mühendisliği Ulusal Toplantısı (BİYOMUT), İstanbul, Turkey, 2003.

27. Y. Serinağaoğlu, D. Sabuncuoğlu, Y.Z. İder, "Spectral Analysis of T-Wave Alternans Signal," Sinyal Isleme ve Iletisim Uygulamalari Kurultayi (SIU), Kuşadası, Turkey, 1-3 May, 1997.

28. D. Sabuncuoğlu, Y. Serinağaoğlu, Y.Z. İder, "Standart Egzersiz Testi Sırasında Kalp Hızı Değişiminin incelenmesi," Sinyal Isleme ve Iletisim Uygulamalari Kurultayi (SIU), Kuşadası, Turkey, 1-3 May, 1997.