

## Prof. ATILA YILMAZ

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### Education Information

Doctorate, University of Sussex, Trafford Center, Biomedical Engineering, United Kingdom 1993 - 1996

Postgraduate, Manchester Institute of Science and Technology, Control Systems Center, Control And Information Technology, United Kingdom 1990 - 1992

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Elektrik Ve Elektronik, Turkey 1982 - 1986

### Foreign Languages

English, C1 Advanced

### Research Areas

Biomedical Engineering, Bioengineering and MEMS, Bioinstrumentation and Microelectromechanical Systems (MEMS), Biomedical Image Processing, Biomechanics, Motion Analysis, Biosignal Processing, Engineering and Technology

### Academic and Administrative Experience

Erasmus Coordinator, Hacettepe University, 2007 - Continues

### Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Anomaly Detection for Solder Joints Using beta-VAE**  
ÜLGER F., YÜKSEL ERDEM S. E. , YILMAZ A.  
IEEE TRANSACTIONS ON COMPONENTS PACKAGING AND MANUFACTURING TECHNOLOGY, vol.11, no.12, pp.2214-2221, 2021 (Journal Indexed in SCI)
- II. **Modeling and simulation of an anthropomorphic hand prosthesis with an object interaction**  
Kaya Z. E. , YILMAZ A.  
COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE, vol.183, 2020 (Journal Indexed in SCI)
- III. **Comparative study for identification of multiple alarms in telecommunication networks**  
YILMAZ A.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.25, no.2, pp.677-688, 2017 (Journal Indexed in SCI)
- IV. **ANALYSIS OF GAIT MOTION EQUATIONS AND APPLICATION OF PROPORTIONAL DERIVATIVE**

## **CONTROL FOR ELECTRONIC ABOVE KNEE PROSTHESIS**

AKDOĞAN K. E. , YILMAZ A.

JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.31, no.1, pp.201-209, 2016 (Journal Indexed in SCI)

- V. **Gait motion simulator for kinematic tests of above knee prostheses**  
YILMAZ A., ORHANLI T.  
IET Science Measurement & Technology, vol.9, no.3, pp.250-258, 2015 (Journal Indexed in SCI)
- VI. **Regional TEC mapping using neural networks**  
YILMAZ A., Akdoğan K. E. , Gürün M.  
RADIO SCIENCE, vol.44, 2009 (Journal Indexed in SCI)
- VII. **Application of conformal transformation to elliptic geometry for electric impedance tomography**  
YILMAZ A., Akdogan K. E. , Saka B.  
MEDICAL ENGINEERING & PHYSICS, vol.30, no.2, pp.144-153, 2008 (Journal Indexed in SCI)
- VIII. **Comparative analysis on wavelet-based detection of finite duration low-amplitude signals related to ventricular late potentials**  
MOUSA A., Yilmaz A.  
PHYSIOLOGICAL MEASUREMENT, vol.25, no.6, pp.1443-1457, 2004 (Journal Indexed in SCI)
- IX. **Elliptic cylinder geometry for distinguishability analysis in impedance tomography**  
Saka B., YILMAZ A.  
IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, vol.51, no.1, pp.126-132, 2004 (Journal Indexed in SCI)
- X. **Non-linear modeling of parabolic reflector: Neural network approach**  
Yilmaz A., Saka B.  
ELECTROMAGNETICS, vol.19, no.2, pp.187-200, 1999 (Journal Indexed in SCI)

## **Books & Book Chapters**

- I. **Taşınabilir apne tespit cihazı: Donanım ve yazılım**  
YILMAZ A., PEKER O.  
in: Uyku Sinyallerinin İşlenmesi, Prof. Dr. Osman EROĞUL, Müh. Galip ÖZDEMİR, Editor, Uyku Klinikleri, Ankara, pp.83-94, 2020
- II. **Biyokinematik: Kuram, Ölçüm ve Çözümleme Çalışmaları**  
Yilmaz A., Orhanlı T.  
in: Biyomedikal Mühendisliği ve Uygulamaları, Osman Eroğul, Editor, Türkiye Yayıncılar Birliği, Ankara, pp.50-60, 2019
- III. **Biokinematics for Mobility: Theory, Sensors, and Wireless Measurements**  
YILMAZ A., ORHANLI T.  
in: Telehealth and Mobile Health, Halit Eren, John G. Webster, Editor, CRC Press, Boca Raton, Florida, pp.525-554, 2015

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Classification of Systolic Murmurs by Using Improved Mel-Wavelet Segmentation**  
ÖZKAN İ., YILMAZ A.  
29th Signal Processing and Communications Applications (SIU), İstanbul, Turkey, 09 June 2021
- II. **Reconstruction of Multiple Inhomogeneities for Circular Model in Electric Impedance Tomography**  
Manisalı H., YILMAZ A.  
29th Signal Processing and Communications Applications (SIU), İstanbul, Turkey, 09 June 2021
- III. **Neural Network Based Real Time Evaluation for Portable Apnea Device with Three Channels**  
PEKER O., YILMAZ A.

29th Signal Processing and Communications Applications (SIU), İstanbul, Turkey, 09 June 2021

- IV. **Analysis and Comparison of Current Dependent Models of MR (Magnetoreological) Dampers Used in Knee Prosthesis**  
Sozeri G., YILMAZ A., ŞAHİN İ.  
27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, 24 - 26 April 2019
- V. **Analysis of Gait Dynamics with the Double Pendulum Model**  
ORHANLI T., YILMAZ A.  
27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, 24 - 26 April 2019
- VI. **Analysis of Portable Apnea Devices: Comparison with Polysomnographic (PSG) Records**  
YILMAZ A., Mutlu M. A. , Gunay M., DEMİR A. U.  
27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, 24 - 26 April 2019
- VII. **Improved Segmentation with Dynamic Threshold Adjustment for Phonocardiography Recordings**  
ÖZKAN İ., YILMAZ A., Celebi G.  
41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Berlin, Germany, 23 - 27 July 2019, pp.6681-6684
- VIII. **Mel-Frequency Cepstrum and Wavelet Transform for Phonocardiography Records**  
ÖZKAN İ., YILMAZ A., Celebi G.  
27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, 24 - 26 April 2019
- IX. **Üç Serbestlik Dereceli Yürüyüş Hareketinin Kinematik Analizi**  
ORHANLI T., YILMAZ A.  
2018 26th Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- X. **Segmentation and Classification of Contractions in Uterine 16 Channels EMG Signals for Preterm Birth Prediction**  
Tagdogen Kocak A., YILMAZ A.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XI. **Kinematic Analysis of Human Gait with Three Degrees of Freedom**  
ORHANLI T., YILMAZ A.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XII. **Design of Apnea Detection Interface Including Time Delay Neural Networks for Portable Recording Devices with Three Channels**  
Peker O., YILMAZ A., DEMİR A. U.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XIII. **Dynamic tests of MR (Magnetorheologic) damper and analysis of response characteristics in semi-active knee prosthesis MR (Manyetoreolojik) Sönümlendiricinin Dinamik Testleri ve Yarı Etkin Diz Protezlerinde Tepki Karakteristiğinin İncelenmesi**  
AKALIN C., Orhanli T., YILMAZ A., Sahin I.  
25th Signal Processing and Communications Applications Conference, SIU 2017, Antalya, Turkey, 15 - 18 May 2017
- XIV. **Wireless and Embedded Controller Card Design for Above-knee Prosthesis with Pneumatic Damper**  
ORHANLI T., SARAÇOĞLU M. S. , ŞAHİN D., YILMAZ A.  
ISPO World Congress 2017, Cape-Town, South Africa, 8 - 11 May 2017
- XV. **Mel-frequency cepstral based heart sound signal segmentation for decision support system**  
CELEBİ G., SOZERİ G., YILMAZ A., KATİRCİOĞLU D., Okutucu S., SAYİN B. Y. , AKSOY H., OTO A.  
2017 25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, Turkey, 15 - 18 May 2017, pp.1-4
- XVI. **Dynamic Tests of MR (Magnetorheologic) Damper and Analysis of Response Characteristics in Semi-Active Knee Prosthesis**  
Akalın C., ORHANLI T., YILMAZ A., ŞAHİN İ.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XVII. **Application of neural based estimation algorithm for gait phases of above knee prosthesis**  
TİLEYLİOĞLU E., YILMAZ A.  
2015 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC),

Milan, Italy, 25 - 29 August 2015

- XVIII. **Embedded Phase Estimation in Finite State Control for Above Knee Prosthesis using Magnetorheological MR Damper**  
YILMAZ A., SADEGHİMORAD A., ORHANLI T., ŞAHİN İ.  
37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Milan, Italy, 25 - 29 August 2015
- XIX. **Improving Test Platform for Kinematic Analysis of Above Knee Prostheses**  
YILMAZ A., ORHANLI T.  
International Society for Prosthetics and Orthotics- ISPO World Congress 2015, Lyon, France, 22 - 25 June 2015, vol.39
- XX. **Application and comparison of finite state control of above knee prosthesis with pneumatic cylinder at different phases**  
ORHANLI T., YILMAZ A.  
2015 23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, Turkey, 16 - 19 May 2015, pp.2234-2237
- XXI. **Application of wireless embedded microcontroller circuit for a semi active above knee prosthesis with pneumatic cylinder**  
SARAÇOĞLU M. S. , ŞAHİN D., ORHANLI T., YILMAZ A.  
2015 23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, Turkey, 16 - 19 May 2015, pp.2258-2261
- XXII. **Elektronik Dizüstü Protezleri İçin Yapay Sinir Ağları Tabanlı Yürüyüş Evre Kestirimi Uygulaması**  
TİLEYLİOĞLU E., YILMAZ A.  
BİYOMUT 2014-Biyomedikal Mühendisliği Ulusal Toplantısı, İstanbul, Turkey, 16 October 2013 - 17 October 2014
- XXIII. **Finite State Control of Semi Active Knee Joint With Pneumatic Damper**  
ORHANLI T., YILMAZ A.  
18th National Biomedical Engineering Meeting (BIYOMUT), İstanbul, Turkey, 16 - 17 October 2014
- XXIV. **Analysis of the Performance of Controlled Semi-active Knee Joint With Magnetorheological (MR) Damper**  
YILMAZ A., Sadeghimorad A., ŞAHİN İ., Kaya Z. E.  
18th National Biomedical Engineering Meeting (BIYOMUT), İstanbul, Turkey, 16 - 17 October 2014
- XXV. **A Test Platform Design for Testing Knee Prostheses**  
YILMAZ A., ORHANLI T.  
18th National Biomedical Engineering Meeting (BIYOMUT), İstanbul, Turkey, 16 - 17 October 2014
- XXVI. **Gait Measurement Using Radial Basis Function Networks and Comparison of Its Performance With Analytical Methods**  
AKDOĞAN K. E. , YILMAZ A.  
18th National Biomedical Engineering Meeting (BIYOMUT), İstanbul, Turkey, 16 - 17 October 2014
- XXVII. **Home recording for pre-phase sleep apnea diagnosis by Holter recorder using MMC memory**  
YILMAZ A., DÜNDAR T.  
2010 IEEE International Conference on Virtual Environments, Human-Computer Interfaces and Measurement Systems, Taranto, Italy, 6 - 08 September 2010
- XXVIII. **Prediction of knee angle from accelerometer data for microcontroller implementation of semi active knee prosthesis**  
ALTINÖZ Ö. T. , YILMAZ A.  
2010 15th National Biomedical Engineering Meeting, Antalya, Turkey, Turkey, 21 - 24 April 2010, pp.1-4
- XXIX. **Space Weather Activities of IONOLAB Group TEC Mapping**  
ARIKAN F., YILMAZ A., ARIKAN O., SAYIN I., GÜRÜN M., AKDOĞAN K. E. , YILDIRIM S. A.  
EGU General Assembly Conference, Viyana, Austria, 19 - 24 April 2009, vol.11, pp.6962-6965
- XXX. **Design Of a Neural Modelling Scheme For Gait Temporal Features**  
Can E., YILMAZ A.  
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009,

- pp.798-801
- XXXI. **Simulations of Knee Angle Control in Dynamical Gait Model for Above Knee Prosthesis**  
Akdogan K. E. , YILMAZ A., Duman S.  
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009,  
pp.822-823
- XXXII. **Design of Portable Holter Recorder with MMC Memory for Prephase Sleep Apnea Diagnosis**  
Karadeniz O., YILMAZ A., Dundar T.  
14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.348-351
- XXXIII. **Regional ionosphere mapping by using neural networks**  
Gueruen M., Akdogan K. E. , YILMAZ A.  
IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007,  
pp.1027-1028
- XXXIV. **A method based on wavelet analysis for the detection of ventricular late potentials in ECG signals**  
MOUSA A., YILMAZ A.  
Proceedings of the 44th IEEE 2001 Midwest Symposium on Circuits and Systems. MWSCAS 2001 (Cat.  
No.01CH37257), Dayton, OH, USA, 14 - 17 August 2001
- XXXV. **Neural network detection of ventricular late potentials in ECG signals using wavelet transform  
extracted parameters**  
MOUSA A., YILMAZ A.  
2001 Conference Proceedings of the 23rd Annual International Conference of the IEEE Engineering in Medicine  
and Biology Society, Istanbul, Turkey, Turkey, 25 - 28 November 2001, vol.2, pp.1668-1671
- XXXVI. **Adaptive non linear filtering of ECG signals dynamic neural network approach**  
YILMAZ A., ENGLISH M. J.  
IEE Colloquium on Artificial Intelligence Methods for Biomedical Data Processing, London, United Kingdom, 26  
April 1996

## Supported Projects

- YILMAZ A., AKÇAY B., Project Supported by Higher Education Institutions, Elektrik ve Elektronik Mühendisliği Bölümü  
Bilgisayar Laboratuvarları, 2015 - 2020
- YILMAZ A., Kaya Z. E. , Project Supported by Higher Education Institutions, Eksik Tahrikli El Protezleri İçin Geliştirilen  
Doğrusal Olmayan Denetim Yöntemlerinin Gerçek Zamanlı Platformlar Üzerindeki Performanslarının Değerlendirilmesi,  
2017 - 2019
- AKTAŞ E., YILMAZ A., BULU G., ÖZGÜN Ö., Project Supported by Higher Education Institutions, Elektrik ve Elektronik  
Mühendisliği Bölümünün ABET Akreditasyonuna Başvurması, 2015 - 2018
- YILMAZ A., AKDOĞAN K. E. , Project Supported by Higher Education Institutions, ELEKTRONİK DİZ PROTEZİ İÇİN  
YÜRÜYÜŞ HAREKET DENKLEMLERİNİN ÇÖZÜMLEMESİ VE ORANSAL TÜREVSEL DENETİM UYGULAMASI, 2017 - 2017
- YILMAZ A., TUBITAK Project, Elektronik Stetoskop ile Ayrıntılı Dinleme Oskültasyon ve Kalp Hastalıklarında Tanı Destek  
Sistemi Geliştirme ESDES G, 2015 - 2017
- YILMAZ A., Orhanlı T., Project Supported by Higher Education Institutions, Diz Üstü Protezlerinin Kinematik Testleri için  
Test Platformunun İyileştirilmesi, 2015 - 2016
- YILMAZ A., TUBITAK Project, Pnömatik Ve Manyetoreolojik MR Sönümlendiricili Yarı Etkin Diz Eklem Tasarımlarında  
Gerçek Zamanlı Yürüyüş Fazı Ve Hız Kestirimi Uygulamaları, 2013 - 2016
- YILMAZ A., Industrial Thesis Project, UYKU ANALIZI AMAÇLI FLASH KART BELLEKLI HOLTER CIHAZI TASARIMI, 2008 -  
2010
- YILMAZ A., Industrial Thesis Project, MİKROİŞLEMCİ KONTROLLÜ PROTEZ DİZ EKLEMİ TASARIMI, 2007 - 2010

## Citations

Total Citations (WOS):62

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