

Asst. Prof. ALPER ŞIŞMAN

Personal Information

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International Researcher IDs

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Biography

Alper Sisman received the B.S. degree in 1998 from the Istanbul Technical University, Turkey; the M.S. and Ph.D. degrees are from Isik University in 2002 and 2010 all in electrical engineering. In 2011, he was a post doc at the Acoustic Transducers Lab., University of South Florida, Tampa, FL. Currently he is an Assistant Professor at the Electrical and Electronics Engineering Department, in Marmara University, Istanbul, Turkey.

His research interests include mixed signal processing, medical ultrasonic imaging and MEMS sensors/actuators.

Education Information

Doctorate, Isik University, Institute Of Science, Elektronik Mühendisliği (Dr), Turkey 2005 - 2010

Postgraduate, Isik University, Institute Of Science, Elektronik Mühendisliği (YI) (Tezli), Turkey 2000 - 2002

Undergraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektrik Mühendisliği Bölümü, Turkey 1993 - 1998

Dissertations

Doctorate, Solid-state arrays and beamformers for side-looking intravascular ultrasonic imaging, Işık Üniversitesi, Fen Bilimleri Enstitüsü, Elektronik Mühendisliği (Dr), 2010

Postgraduate, Design and implementation of a low cost telematic control system, Işık Üniversitesi, Fen Bilimleri Enstitüsü, Elektronik Mühendisliği (YI) (Tezli), 2002

Research Areas

Bioengineering and MEMS, Biosignal Processing, Rehabilitation, Electronic, MEMS

Academic Titles / Tasks

Assistant Professor, Marmara University, Faculty of Engineering, Electrical and Electronics Engineering, 2011 - Continues
Assistant Professor, Technische Universiteit Delft, Engineering Faculty, Electrical Engineering Mathematics and Computer Science Dept, 2022 - 2024

Assistant Professor, University of South Florida, Engineering, Mechanical Eng. Dept, 2011 - 2012

Research Assistant, Isik University, Faculty Of Engineering, Department Of Electronic Engineering, 2003 - 2011

Academic and Administrative Experience

Marmara University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 2016 - 2017

Courses

Fund. of Electrical Engineering, Undergraduate, 2019 - 2020, 2017 - 2018
Embedded System Design, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018
Biomedical Instrumentation, Undergraduate, 2018 - 2019, 2017 - 2018
Digital Design, Undergraduate, 2019 - 2020, 2017 - 2018
Microelectromechanical Systems, Postgraduate, 2018 - 2019, 2017 - 2018
Linear Algebra, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018
Array Signal Processing, Doctorate, 2018 - 2019, 2017 - 2018

Designed Lessons

Şişman A., Biomedical Instrumentation, Undergraduate, 2017 - 2018
Şişman A., Array Signal Processing, Doctorate, 2013 - 2014
Şişman A., Digital Design, Undergraduate, 2013 - 2014
Şişman A., Microelectromechanical Systems, Postgraduate, 2012 - 2013
Şişman A., Embedded System Design, Undergraduate, 2012 - 2013

Research Infrastructure Information

Şişman A., AcousticMEMS Lab., June 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Developing a surface acoustic wave-induced microfluidic cell lysis device for point-of-care DNA amplification**
HUSSEINI A. A., Yazdani A. M., Ghadiri F., ŞİŞMAN A.
Engineering in Life Sciences, vol.24, no.1, 2024 (SCI-Expanded)
- II. **Numerical and Experimental Studies on the Effect of Surface Roughness and Ultrasonic Frequency on Bubble Dynamics in Acoustic Cavitation**
Altay R., Sadaghiani A. K., Sevgen M. I., Sisman A., KOŞAR A.
ENERGIES, vol.13, no.5, 2020 (SCI-Expanded)
- III. **An Analog Integrated Circuit Beamformer for High-Frequency Medical Ultrasound Imaging**
Gurun G., Zahorian J. S., ŞİŞMAN A., Karaman M., Hasler P. E., Degertekin F. L.
IEEE TRANSACTIONS ON BIOMEDICAL CIRCUITS AND SYSTEMS, vol.6, no.5, pp.454-467, 2012 (SCI-Expanded)
- IV. **A Synthetic Phased Array Surface Acoustic Wave Sensor for Quantifying Bolt Tension**
Martinez J., Sisman A., Onen O., Velasquez D., Guldiken R.
SENSORS, vol.12, no.9, pp.12265-12278, 2012 (SCI-Expanded)
- V. **A Urinary Bcl-2 Surface Acoustic Wave Biosensor for Early Ovarian Cancer Detection**
Onen O., Sisman A., Gallant N. D., Kruk P., Guldiken R.
SENSORS, vol.12, no.6, pp.7423-7437, 2012 (SCI-Expanded)

Articles Published in Other Journals

- I. **MarVAJED Propriyosepsiyon Protokolünün Geçerliliğinin ve Güvenilirliğinin Değerlendirilmesi Pilot Çalışma**
Sarı Z., Demirbüken İ., Aydoğdu O., Şişman A., Yurdalan S. U.
FİZYOTERAPİ VE REHABİLİTASYON DERGİSİ, vol.1, no.1, 2016 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Thermal Bioeffect of Hybrid Microfluidic System Used for Particle and Cell Separation**
Yazdani A. M., Alijani H., Özbey A., Karimzadehkhoei M., Koşar A., Şişman A., Alpman E., Altay R.
in: Advances in Heat Transfer and Thermal Engineering , Wen Chuang,Yan Yuying, Editor, Springer, London/Berlin , Singapore, pp.321-324, 2021
- II. **Hybrid Energy Harvester (HEHs)-A Review**
Güre N., KAR A., TAÇGIN E., ŞİŞMAN A., Tabatabaei M.
in: Energy Harvesting and Energy Efficiency: Technology, Methods and Applications, Nicu bizon etc, Editor, Springer International Publishing AG, pp.17-61, 2017

Refereed Congress / Symposium Publications in Proceedings

- I. **A New Array Design for Non Destructive Testing using Acoustic Imaging Akustik Görüntüleme ile Tahribatsız Muayene için Yeni Bir Dizi Tasarımı**
Gençay Ö., Şişman A.
31st IEEE Conference on Signal Processing and Communications Applications, SIU 2023, İstanbul, Turkey, 5 - 08 July 2023
- II. **An image processing system for detecting production errors on circuit boards and enabling error tracking and reporting based on 2-D barcodes**
ŞİŞMAN A., DOĞRUEL M., ŞAHAN Ö. F., AZAT V., GÜNGÖR E., DURMAZ F., DEDEOĞLU K.
2018 26th Signal Processing and Communications Applications Conference (SIU), Izmir, Turkey, Turkey, 2 - 05 May 2018
- III. **Volumetric extraction of pulmonary blood vessels from computerized tomography scans**
ARIBAŞ K., ESMER G. B., ŞİŞMAN A., LAÇİN T., SARIGÜL N., AYVACIKLI B.
2018 26th Signal Processing and Communications Applications Conference (SIU), Izmir, Turkey, 2 - 05 May 2018, vol.1, pp.1-4
- IV. **DEVELOPMENT OF A DIGITAL DATATRANSMISSION PORTABLE BOREHOLETEMPERATURE LOGGING SYSTEM FORCLIMATOLOGICAL AND GEOTHERMAL STUDIES**
ERKAN K., DOĞRUEL M., AKKOYUNLU B. O., BAYAT F. K., ŞİŞMAN A., BALKAN E., TAYANÇ M.
The 9th International Symposium on Image Processing, Wavelet andApplications, 5 - 08 November 2017
- V. **EXAMINIG OF RELIABILITY AND VALIDITY OF MarVAJED PRORIOCEPTION PROTOCOL**
AYDOĞDU O., SARI Z., DEMİRBÜKEN İ., ÜNLÜ B., ŞİŞMAN A., YURDALAN S. U., POLAT M. G.
CBU INTERNATIONAL CONFERENCE ON INNOVATIONS IN SCIENCE AND EDUCATION, PRAG, Czech Republic, 22 - 24 March 2017
- VI. **MarVAJED Propriyosepsiyon Protokolünün Geçerlilik ve Güvenilirliğinin Değerlendirilmesi Pilot Çalışma**
SARI Z., DEMİRBÜKEN İ., AYDOĞDU O., ŞİŞMAN A., YURDALAN S. U., POLAT M. G.
2. ULUSAL ROMATOLOJİK REHABİLİTASYON KONGRESİ, İstanbul, Turkey, 13 - 15 October 2016, vol.27, pp.86-87
- VII. **MarVAJED Propriyosepsiyon Protokolünün Geçerlilik ve Güvenilirliğinin Değerlendirilmesi Pilot Çalışma**
SARI Z., DEMİRBÜKEN İ., AYDOĞDU O., ŞİŞMAN A., YURDALAN S. U., POLAT M. G.

2. Ulusal Romatolojik Rehabilitasyon Kongresi, İstanbul, Turkey, 13 - 15 October 2016
- VIII. **MARVAJED Propriozeptionprotokolünün geçerlilik ve güvenilirliğinin değerlendirilmesi Pilot çalışma**
SARI Z., DEMİRBÜKEN İ., AYDOĞDU O., ŞİŞMAN A., YURDALAN S. U., POLAT M. G.
2.Ulusal Romatolojik Rehabilitasyon Kongresi, İstanbul, Turkey, 13 - 15 October 2016
- IX. **A Low Cost Smart Security and Home Automation System Employing an Embedded Server and a Wireless Sensor Network**
Karaca S., Savruk I., ŞİŞMAN A.
6th IEEE International Conference on Consumer Electronics - Berlin (ICCE-Berlin), Berlin, Germany, 5 - 07 September 2016
- X. **A Low-cost Biomarker-based SAW-Biosensor Design for Early Detection of Prostate Cancer**
Şişman A., Gür E., Ozturk S., Enez B., Okur B., Toker O.
26th Anniversary World Congress on Biosensors (Biosensors), Gothenburg, Sweden, 25 - 27 May 2016, vol.27, pp.248-249
- XI. **AN URINARY BIOSENSOR FOR EARLY STAGE OVARIAN CANCER DETECTION: EXPERIMENTAL CHARACTERIZATION**
Onen O., ŞİŞMAN A., Kruk P., Guldiken R. O.
ASME International Mechanical Engineering Congress and Exposition, Texas, United States Of America, 9 - 15 November 2012, pp.79-80
- XII. **A novel ultrasonic method to quantify pressure in bolted joints**
Sisman A., Martinez J., Guldiken R.
International Symposium of Ultrasound in the Control of Industrial Processes (UCIP), Madrid, Spain, 18 - 20 April 2012, vol.42
- XIII. **Solid-state SL-IVUS arrays based on non-uniform aperture sampling**
ŞİŞMAN A., KARAMAN M., GÜRÜN G., DEĞERTEKİN L.
2010 IEEE International Ultrasonics Symposium, San Diego, CA, USA, 11 - 14 October 2010
- XIV. **Evaluation of CMUT Annular Arrays for Side-looking IVUS**
Şişman A.
IEEE International Ultrasonics Symposium, Rome, Italy, 22 - 26 September 2009, pp.2774-2777
- XV. **Tunable Analog Delay Element for High-Frequency Dynamic Beamforming**
Şişman A.
IEEE International Ultrasonics Symposium, Rome, Italy, 24 - 26 September 2009, pp.345-348
- XVI. **Evaluation of CMUT annular arrays for side looking IVUS**
ŞİŞMAN A., Zahorian J., Gürün G., KARAMAN M., DEĞERTEKİN L.
Ultrasonic Symposium IUS 2009, 14 - 16 September 2009
- XVII. **Annular CMUT arrays and integrated electronics for intravascular ultrasound imaging**
Şişman A.
MUT 2009 Workshop, Besançon, France, 28 - 29 May 2009
- XVIII. **Annular CMUT Arrays for Side Looking Intravascular Ultrasound Imaging**
Şişman A.
IEEE International Ultrasonics Symposium, New-York, United States Of America, 24 - 27 September 2007, pp.723-727

Metrics

Publication: 27

Citation (WoS): 78

Citation (Scopus): 59

H-Index (WoS): 4

H-Index (Scopus): 4

Non Academic Experience

Company, Konfides A.S., R&D

Company, MedicaSENSE Technology Ltd. Sti., Founder / R&D

MedicaSense Teknoloji Tic. ve San. Ltd. Sti.

Company, Obase A.S., R&D

Company, Penta Electronics A.S., R&D

ELAA Teknoloji Ltd. Sti.

Company, Ekol Logistics, R&D

Company, Intersonik A.S., R&D

Company, Mobiarts Communication Systems Ltd. Sti., Founder/Shareholder - R&D

Mobiarts İletişim Sistemleri Ltd. Sti.

Teknobil Bilgisayar A.Ş.

Company, Teknobil Engineering A.S., R&D

Company, Inter Electronics AS, Military Projects

İnter Elektronik A.Ş.