

## Asst. Prof. MEHMET YÜKSEKKAYA

### Personal Information

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**Web:** <https://avesis.ankara.edu.tr/myuksekkaya>

### International Researcher IDs

ScholarID: 3bji-gQAAAAJ

ORCID: 0000-0002-2665-5799

Publons / Web Of Science ResearcherID: P-1760-2016

ScopusID: 56548749800

Yoksis Researcher ID: 111990

### Education Information

Doctorate, Baskent University, Institute Of Science, Elektrik-Elektronik Mühendisliği (Dr), Turkey 2011 - 2017

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Elektrik Ve Elektronik Mühendisliği (Yl) (Tezli), Turkey 2002 - 2005

Undergraduate, Baskent University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, Turkey 1997 - 2002

### Dissertations

Doctorate, Microfluidic Biosensors for Point of Care Applications Using Electrical Impedance Analysis and Portable Lensless Wide-Field Microscopy Imaging, Baskent University, fen bilimleri enstitüsü, elektrik elektronik mühendisliği, 2017

Postgraduate, Implementation and performance analysis of the DVB-T standard system, Middle East Technical University, Genel Biyoloji Anabilim Dalı, Elektrik Ve Elektronik Mühendisliği (Yl) (Tezli), 2005

### Research Areas

Biomedical Engineering, Bioengineering and MEMS, Biomedical Image Processing, Biosignal Processing, Rehabilitation, Telemedicine

### Academic Titles / Tasks

Assistant Professor, Ankara University, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2021 - Continues

Assistant Professor, Baskent University, Engineering Faculty, Biomedical Engineering, 2017 - 2021

Lecturer, Baskent University, Faculty Of Engineering, Department Of Biomedical Engineering, 2007 - 2017

Research Assistant, Baskent University, Faculty Of Engineering, Department Of Biomedical Engineering, 2002 - 2007

### Academic and Administrative Experience

Head of Unit Accreditation Board, Ankara University, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2023 -

Continues

Chair of the Commission, Ankara University, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2022 - Continues  
Deputy Head of Department, Ankara University, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2021 -

Continues

Internship Coordinator, Ankara University, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2021 - 2024

## Courses

MEDICAL IMAGING (L), Undergraduate, 2022 - 2023

STUDY OF THESIS, Postgraduate, 2023 - 2024, 2022 - 2023

BIOMEDICAL ENGINEERING DESIGN II, Undergraduate, 2022 - 2023, 2021 - 2022

INTRODUCTION TO BIOMEDICAL ENGINEERING, Undergraduate, 2022 - 2023

BIOMEDICAL INSTRUMENTATION I, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021

BIOMEDICAL ENGINEERING DESIGN I, Undergraduate, 2023 - 2024

BIOMEDICAL SYSTEMS, Undergraduate, 2022 - 2023, 2021 - 2022

BIOMEDICAL INSTRUMENTATION II, Undergraduate, 2023 - 2024

Fundamentals Of Engineering Sciences, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022

Seminar, Postgraduate, 2023 - 2024

GRADUATE SPECIALIZATION COURSE, Postgraduate, 2023 - 2024

Microcontroller Based System Design, Postgraduate, 2022 - 2023

CIRCUIT ANALYSIS, Undergraduate, 2023 - 2024

Electrical Circuits Laboratory, Undergraduate, 2023 - 2024

GRADUATE SPECIALIZATION COURSE, Postgraduate, 2023 - 2024, 2022 - 2023

INTERNSHIP, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022

INTERNSHIP, Undergraduate, 2022 - 2023, 2021 - 2022

CELL CULTURE BASICS, Undergraduate, 2023 - 2024

SEMINAR, Postgraduate, 2023 - 2024, 2022 - 2023

ELECTRONICS LABORATORY, Undergraduate, 2022 - 2023, 2021 - 2022

Digital Image Processing, Postgraduate, 2021 - 2022

MEDICAL IMAGING, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020

BIOMEDICAL INSTRUMENTATION II, Undergraduate, 2022 - 2023, 2021 - 2022

BIOMEDICAL INSTRUMENTATION II, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020

BIOMEDICAL ENGINEERING DESIGN I, Undergraduate, 2022 - 2023, 2021 - 2022

Biomedical Instrumentation I, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020

BIOMEDICAL SYSTEMS, Undergraduate, 2022 - 2023

Signals And Systems, Undergraduate, 2022 - 2023, 2021 - 2022

BİTİRME PROJESİ I, Undergraduate, 2021 - 2022, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008

CIRCUIT ANALYSIS, Undergraduate, 2019 - 2020

BİTİRME PROJESİ II, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008

ELEKTROMANYETİK TEORİ, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014

MEDİKAL ELEKTRONİK, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017

MİKROİŞLEMCİLER, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008

SAYISAL MANTIK TASARIMI, Undergraduate, 2018 - 2019, 2017 - 2018

BİYOMEDİKAL UYGULAMALARLA SAYISAL GÖRÜNTÜ İŞLEME, Postgraduate, 2018 - 2019

BİYOMİKROELEKTROMEKANİK SİSTEMLERE GİRİŞ, Postgraduate, 2018 - 2019

BİYOMÜHENDİSLİKTE ÖZEL KONULAR, Postgraduate, 2017 - 2018

Biyomedikal Görüntü İşleme, Undergraduate, 2014 - 2015, 2013 - 2014

Sinyaller ve Sistemler, Undergraduate, 2012 - 2013, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008

Biyomedikal Sinyal İşleme I, Undergraduate, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008

Biyomedikal Sinyal İşleme II, Undergraduate, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008

## Advising Theses

Haberal O. E., Yüksekaya M., Radyoloji görüntülerinden COVID19 zatürresi analizi, Postgraduate, M.MEHDİ(Student), 2022

YÜKSEKKAYA M., Mikroskopik gölge görüntüleme tabanlı mikroakışkan sitometrisi, Postgraduate, E.KERİMOĞLU(Student), 2021

YÜKSEKKAYA M., internet based wireless mobile potetntiostat, Postgraduate, A.İLHAN(Student), 2020

## Jury Memberships

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Başkent Üniversitesi, September, 2021

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

- I. **Micro-polymerase chain reaction for point-of-care detection and beyond: a review microfluidics and nanofluidics**  
Ince G. T., YÜKSEKKAYA M., Haberal O. E.  
MICROFLUIDICS AND NANOFUIDICS, vol.27, no.10, 2023 (SCI-Expanded)
- II. **Attractive Versus Golden Ratios: Formula of Utopian Beauty through Comparison of Facial Proportions among Worldwide Celebrities and Average People**  
Yalcinkaya E., Kocaman S. A., YÜKSEKKAYA M.  
JOURNAL OF CRANIOFACIAL SURGERY, vol.33, no.7, pp.1950-1955, 2022 (SCI-Expanded)
- III. **Shear wave elastography in early diabetic kidney disease**  
Yuksekkaya R., Celikyay F., YÜKSEKKAYA M., KUTLUTÜRK F.  
REVISTA DA ASSOCIACAO MEDICA BRASILEIRA, vol.68, no.6, pp.765-769, 2022 (SCI-Expanded)
- IV. **Color Doppler Ultrasound Assessment of Clinical Activity in Inflammatory Bowel Disease**  
Celikyay F., Yuksekkaya R., Yuksekkaya M., Kefeli A.  
CURRENT MEDICAL IMAGING, vol.17, no.6, pp.741-750, 2021 (SCI-Expanded)
- V. **Quantitative Color Doppler Ultrasonography Measurement of Thyroid Blood Flow in Patients with Graves' Disease**  
Yuksekkaya R., Celikyay F., Gul S. S., YÜKSEKKAYA M., KUTLUTÜRK F., Ozmen C.  
CURRENT MEDICAL IMAGING, vol.16, no.9, pp.1111-1124, 2020 (SCI-Expanded)
- VI. **A Novel On-Chip Method for Differential Extraction of Sperm in Forensic Cases**  
Inci F., Ozen M. O., SAYLAN Y., Miansari M., Cimen D., Dhara R., Chinnasamy T., YÜKSEKKAYA M., Filippini C., Kumar D. K., et al.  
ADVANCED SCIENCE, vol.5, no.9, 2018 (SCI-Expanded)
- VII. **Reduced Graphene Oxide-GelMA Hybrid Hydrogels as Scaffolds for Cardiac Tissue Engineering**  
Shin S. R., Zihlmann C., Akbari M., Assawes P., Cheung L., Zhang K., Manoharan V., Zhang Y. S., YÜKSEKKAYA M., Wan K., et al.  
SMALL, vol.12, no.27, pp.3677-3689, 2016 (SCI-Expanded)
- VIII. **Engineering long shelf life multilayer biologically active surfaces on microfluidic devices for point of care applications**

Asghar W., YÜKSEKKAYA M., Shafiee H., Zhang M., Ozen M. O., Inci F., KOCAKULAK M., Demirci U.  
SCIENTIFIC REPORTS, vol.6, 2016 (SCI-Expanded)

- IX. **Portable lensless wide-field microscopy imaging platform based on digital inline holography and multi-frame pixel super-resolution**  
Sobieranski A. C., Inci F., Tekin H. C., YÜKSEKKAYA M., Comunello E., Cobra D., von Wangenheim A., Demirci U.  
LIGHT-SCIENCE & APPLICATIONS, vol.4, 2015 (SCI-Expanded)
- X. **Printed Flexible Plastic Microchip for Viral Load Measurement through Quantitative Detection of Viruses in Plasma and Saliva**  
Shafiee H., Kanakasabapathy M. K., Juillard F., Keser M., Sadasivam M., YÜKSEKKAYA M., Hanhauser E., Henrich T. J., Kuritzkes D. R., Kaye K. M., et al.  
SCIENTIFIC REPORTS, vol.5, 2015 (SCI-Expanded)
- XI. **Paper and Flexible Substrates as Materials for Biosensing Platforms to Detect Multiple Biotargets**  
Shafiee H., Asghar W., Inci F., YÜKSEKKAYA M., Jahangir M., Zhang M. H., Durmus N. G., Gurkan U. A., Kuritzkes D. R., Demirci U.  
SCIENTIFIC REPORTS, vol.5, 2015 (SCI-Expanded)
- XII. **Assessment of color Doppler ultrasonography findings in gynecomastia**  
Yuksekkaya R., Celikyay F., Ozcetin M., YÜKSEKKAYA M., Asan Y.  
MEDICAL ULTRASONOGRAPHY, vol.15, no.4, pp.285-288, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Alterations in terminal duct diameter and blood flow in the breasts of subjects with polycystic ovary syndrome**  
Yuksekkaya R., Çelikyay F., Yuksekkaya M., Demirtürk F., Nacar M. C.  
Kocaeli Tıp Dergisi, vol.8, no.3, pp.104-108, 2019 (Peer-Reviewed Journal)
- II. **Design of a Mini Fluorescence Microscope**  
Yuksekkaya M., Şahin B., Özel G.  
Avrupa Bilim ve Teknoloji Dergisi, vol.0, no.0, pp.398-403, 2019 (Peer-Reviewed Journal)
- III. **A Compact Thermocycler for Polymerase Chain Reaction**  
Yuksekkaya M., Tekin A., Yamandır M. N.  
Avrupa Bilim ve Teknoloji Dergisi, vol.0, no.0, pp.367-374, 2019 (Peer-Reviewed Journal)
- IV. **Design of a Fall Detection System**  
Yuksekkaya M., Yayla B., Menteş M. M., Haberal O. E.  
Avrupa Bilim ve Teknoloji Dergisi, vol.0, no.0, pp.361-366, 2019 (Peer-Reviewed Journal)
- V. **Chitin increases the angiogenesis in chorioallantoic membrane model in the presence of testosterone and progesterone**  
Sağlam E. I., Kutlu I. C., Haberal O. E., YÜKSEKKAYA M., Kiliçarslan Ö., Güran Ş.  
Gulhane Medical Journal, vol.61, no.1, pp.20-24, 2019 (Scopus)
- VI. **An investigation into the prevalence of paratracheal air cysts revealed on multidetector computed tomography.**  
Sade R., Yuksekkaya R., Celikyay F., Yilmaz A., Celikel S., Yuksekkaya M.  
JRSM open, vol.5, no.4, 2014 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Gerilim Denetleyicisi: Yöntem ve Prensipler**  
Aydoğmuş G., Yalçın H. N., YÜKSEKKAYA M.  
in: Mühendislik Alanında Akademik Çalışmalar – II, İrkin, Reyhan, Editor, Gece Kitaplığı, Ankara, pp.205-218, 2020
- II. **Oransal İntegral Türev Kontrolörü**

## Refereed Congress / Symposium Publications in Proceedings

- I. **Silver Nanowire Polymer Composite Based Flexible Strain Sensor**  
Yılmaz İ., Yüksekaya M., Dölek G. P., Kaşçı H., Eyidoğan A., Saltalı F., Murathan Ö. F.  
2.Ulusal Nanoteknolojide İletken Polimer Günleri, Isparta, Turkey, 23 - 25 July 2024
- II. **Use of Conductive Polymer Nanocomposites in Flexible Strain Sensors**  
Dölek G. P., Yüksekaya M., Yılmaz İ., Kaşçı H., Eyidoğan A.  
2.Ulusal Nanoteknolojide İletken Polimer Günleri, Isparta, Turkey, 23 - 25 July 2024
- III. **Respiratory Monitoring System Based on Torso Expansion**  
YÜKSEKKAYA M., Baho Vita H., Abusamha A.  
2022 Innovations in Intelligent Systems and Applications Conference, ASYU 2022, Antalya, Turkey, 7 - 09 September 2022
- IV. **A Compact Blood-Clotting Time Analysis System**  
YÜKSEKKAYA M.  
4th International Conference on Engineering Technology and Applied Sciences (ICETAS) 2019, 24 - 28 April 2019
- V. **Analysis Of Inverse Problem Solutions For Hearttorso Electrocardiograms**  
KURT D. İ., YÜKSEKKAYA M.  
4th International Conference on Engineering Technology and Applied Sciences (ICETAS) 2019, 24 - 28 April 2019
- VI. **Kitin molekülü testosteron ve progesteron varlığında koryoallantoik membran modelinde anjiyogenezi artırır.**  
GÜRAN Ş., SAĞLAM E. İ., KUTLU İ. C., HABERAL O. E., YÜKSEKKAYA M., KILIÇARSLAN Ö.  
XIII. ULUSLARARSI KATILIMLI TIBBİ GENETİK KONGRESİ, Antalya, Turkey, 7 - 11 November 2018, vol.30, pp.99-100
- VII. **An Image Processing Method for Automatic Counting of Sperm Cells from Microscope Images**  
YÜKSEKKAYA M.  
IV INTERNATIONAL CONFERENCE ON ENGINEERING AND NATURAL SCIENCES (ICENS), 2 - 06 May 2018
- VIII. **Desing and Test of an Incubator Analyzer**  
Sen G. T., YÜKSEKKAYA M.  
2nd International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Kizilcahamam, Turkey, 19 - 21 October 2018, pp.167-171
- IX. **A Digital to Analog Voltage Converter Experiment for Microcontroller Course**  
İnceci Ş., YÜKSEKKAYA M.  
InternationalConference on Education in Mathematics, Science & Technology (ICEMST) 2017, Aydın, Kuşadası, Turkey, 18 - 21 May 2017
- X. **A Turbidimeter Design Experiment for Biomedical Engineering Undergraduates**  
Kurt D. İ., YÜKSEKKAYA M.  
InternationalConference on Education in Mathematics, Science & Technology (ICEMST) 2017, Aydın, Kuşadası, Turkey, 18 - 21 May 2017
- XI. **Design of a Portable Wireless ECG Hardware.**  
YILMAZ S., YÜKSEKKAYA M.  
International Conference on Research inEducation and Science (ICRES) 2016, Bodrum, Muğla, Turkey, 19 - 22 May 2016
- XII. **Improving the Effectiveness of Electromagnetic Theory Education by Increasing the Learning Motivation**  
Ayan Ş. B., YÜKSEKKAYA M.  
International Conference on Education in Mathematics, Science & Technology (ICEMST) 2015, 23 April 2015 - 26 April 2016

- XIII. **An Efficient Microcontroller Course with an Affordable and Easy to Use Development Setup**  
YÜKSEKKAYA M., HABERAL O. E.  
International Conference on Education in Mathematics, Science & Technology (ICEMST) 2015, Antalya, Turkey, 23 - 26 April 2015
- XIV. **A Short Course on Spectroscopy and Spectrophotometry Training for Workers in Industry**  
YÜKSEKKAYA M., Deryal Y., Ayan Ş. B., Özer M. A., Sayın M.  
International Conference on Education in Mathematics, Science & Technology (ICEMST) 2015, 23 - 26 April 2015
- XV. **Flexible Microfluidics for CD4+ T-Cell Capture and Counting**  
Asghar W., YÜKSEKKAYA M., Zhang M. H., Shafiee H., Demirci U.  
EMBS Micro and Nanotechnology in Medicine Conference 2014, Oahu, Hawaii, United States Of America, 8 - 12 December 2014
- XVI. **Portable Lensless Microscopy Platform for Healthcare Applications**  
TEKİN H. C., İnci F., Sobieranski A. C., YÜKSEKKAYA M., Comunello E., Cobra D., von Wangenheim A., Demirci U.  
Bio-X Interdisciplinary Initiatives Symposium 2014, Stanford, California, United States Of America, 27 August 2014
- XVII. **An extremely rare complication accidentally removal of an implanted stent by percutaneous route**  
YILMAZTEPE M. A., GÜRLERTOP H. Y., KAÇMAZ Y., AKSOY Y., YÜKSEKKAYA M., GÖNENÇ İ. M., DEMİR A., ERKEK A. B., ERSÖZ Ş., Uçar S.  
EUROPCR 2014, Paris, France, 20 - 23 May 2014
- XVIII. **ECG simulator EKG simülatörü**  
Karayalçın S., YÜKSEKKAYA M., Yazgi S.  
2010 15th National Biomedical Engineering Meeting, BIYOMUT2010, Antalya, Turkey, 21 - 24 April 2010
- XIX. **EKG Simülatörü**  
Karayalçın S., YÜKSEKKAYA M., Yazgi S.  
2010 15th National Biomedical Engineering Meeting (BIYOMUT 2010), Antalya, Turkey, 21 - 24 March 2010
- XX. **A low noise, wide band and digitally controlled low input current-to-voltage amplifier**  
YÜKSEKKAYA M., KOÇUM İ. C.  
14th International Biomedical Science & Technology Symposium (BIOMED 2008), Bodrum, Muğla, Turkey, 3 - 07 May 2008
- XXI. **Wheeze lung sound detection system**  
YÜKSEKKAYA M., Karpuzcu M., Özdemir G.  
14th International Biomedical Science & Technology Symposium (BIOMED 2008), Bodrum, Muğla, 3 - 07 May 2008
- XXII. **Design of a microprocessor controlled raidant warmer**  
Gök M., YÜKSEKKAYA M.  
14th International Biomedical Science & Technology Symposium (BIOMED 2008), Bodrum, Muğla, Turkey, 3 - 07 May 2008

## Supported Projects

- Çatalbaş M. C., Arı F., Yüksekaya M., Fıçıcı C., Telatar Z., TÜBİTAK Project, Afet Sonrası Arama Kurtarma Operasyonlarında Hayatta Kalanları Tespit Etmek İçin Çoklu Sensör Veri Füzyonu Tabanlı Otonom İHA Sistemi Tasarımı ve Gerçekleştirilmesi, 2025 - 2026
- Yüksekaya M., Töngge Ç., Ceyhan K., Çatalbaş M. C., TÜBİTAK Project, Development of an Innovative Artificial Intelligence-Assisted Image Cytometry Method for Cerebrospinal Fluid Analysis, 2024 - 2026
- Yüksekaya M., Murathan Ö. F., Güleç H. S., Sonel Tur B., Research Project of the Presidency of Turkey Health Institutes (TÜSEB), Medikal Uygulamalar için Hassas, Yüksek Dayanımlı, Kullanışlı ve Esnek Giyilebilir Gerinim ve Basınç Sensörü Geliştirilmesi, 2024 - 2026
- Öner Cengiz H., Gönenc İ. M., Yüksekaya M., Demir A., Erkek A. B., Ersöz Ş., TÜBİTAK Project, The Impact of Training Provided with a Stoma Care Educational Belt on Care Skills, Compliance, Anxiety, and Patient Satisfaction in Patients Undergoing Intestinal Stoma Surgery, 2024 - 2025
- Yüksekaya M., Industrial Organizations of Other Countries Supported Project, Portable AI-Based Analysis Device for

Rapid Healthcare Services in Disaster Scenarios, 2023 - 2025

Çatalbaş M. C., Arı F., Yüksekaya M., Eyidođan A., Project Supported by Other Private Institutions, Yapay Zeka Destekli Kullanıcı Dikkat/Yorgunluk Tespit Sistemi, 2022 - 2023

## **Metrics**

Publication: 44

Citation (WoS): 645

Citation (Scopus): 474

H-Index (WoS): 6

H-Index (Scopus): 4