

## **Prof.Dr. KUTAY İÇÖZ**

### **Kişisel Bilgiler**

**E-posta:** kutay.icoz@agu.edu.tr

**Web:** <https://avesis.agu.edu.tr/kutay.icoz>

### **Uluslararası Araştırmacı ID'leri**

ScholarID: AOfLBpgAAAAJ

ORCID: 0000-0002-0947-6166

Publons / Web Of Science ResearcherID: J-2063-2015

ScopusID: 24801985000

Yoksis Araştırmacı ID: 202837

### **Eğitim Bilgileri**

Post Doktora, Harvard University, Medical School, Neurosurgery, Amerika Birleşik Devletleri 2010 - 2011

Doktora, Purdue University, College Of Engineering, Biomedical Engineering, Amerika Birleşik Devletleri 2005 - 2010

Yüksek Lisans, Ohio State University, College Of Engineering, Electrical Engineering, Amerika Birleşik Devletleri 2003 - 2004

Lisans, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği, Türkiye 1998 - 2002

### **Yabancı Diller**

İngilizce, C1 İleri

### **Sertifika, Kurs ve Eğitimler**

Kalite Yönetimi, Lean 6 Sigma, Intel, 2012

### **Yaptığı Tezler**

Doktora, Immunomagnetic Bead Assisted Nanomechanical Biosensor, Purdue University, 2010

### **Araştırma Alanları**

Sağlık Bilimleri, Tıp, Temel Tıp Bilimleri, Mikrobiyoloji ve Klinik Mikrobiyoloji, İmmünloloji, Biyomedikal Mühendisliği, Biyoenstrümantasyon ve MEMS, Biyoenstrümantasyon ve MEMS, Elektrik-Elektronik Mühendisliği, Elektronik, Baskı Devreler, İnce Film, Kalın Film ve Hibrid Tümleşik Devreler, Devre Kuramı , DönüştürÜcÜler ve Algılama Aygıtları , Elektronik Devreler , Nanoteknoloji, MEMS, Manyetik Malzeme ve Aygıtlar , Mühendislik ve Teknoloji

### **Akademik Unvanlar / Görevler**

Doç.Dr., Abdullah Gül Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2018 - Devam Ediyor  
Yrd.Doç.Dr., Abdullah Gül Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2014 - 2018

## Akademik İdari Deneyim

### Verdiği Dersler

Fundamentals of Biomems, Doktora, 2022 - 2023

### Yönetilen Tezler

İÇÖZ K., Improving Sensitivity of Biosensors By Using Micro/Nano Magnetic Particles, Yüksek Lisans, O.Mzava(Öğrenci), 2016

### SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. Improved senescent cell segmentation on bright-field microscopy images exploiting representation level contrastive learning  
ÇELEBİ F., Boyvat D., Ayaz-Guner S., Tasdemir K., İÇÖZ K.  
International Journal of Imaging Systems and Technology, cilt.34, sa.2, 2024 (SCI-Expanded)
- II. Respiration monitoring using a paper-based wearable humidity sensor, a step forward to clinical tests  
Solak İ., Gençer S., Yıldırım B., Öznur E., HAH D., İÇÖZ K.  
Sensors and Actuators A: Physical, cilt.355, 2023 (SCI-Expanded)
- III. Simple Staining of Cells on a Chip  
Kosker F. B., AYDIN Ö., İÇÖZ K.  
BIOSENSORS-BASEL, cilt.12, sa.11, 2022 (SCI-Expanded)
- IV. Deep learning based semantic segmentation and quantification for MRD biochip images  
ÇELEBİ F., TAŞDEMİR K., İÇÖZ K.  
BIOMEDICAL SIGNAL PROCESSING AND CONTROL, cilt.77, 2022 (SCI-Expanded)
- V. Optical detection of microplastics in water  
Iri A. H., Shahrah M. H. A., Ali A. M., Qadri S. A., ERDEM T., ÖZDÜR İ. T., İÇÖZ K.  
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, cilt.28, sa.45, ss.63860-63866, 2021 (SCI-Expanded)
- VI. High spatial resolution IoT based air PM measurement system  
Icoz E., Malik F. M., İÇÖZ K.  
ENVIRONMENTAL AND ECOLOGICAL STATISTICS, cilt.28, sa.4, ss.779-792, 2021 (SCI-Expanded)
- VII. Tuning optical properties of self-assembled nanoparticle network with external optical excitation  
Senel Z., İÇÖZ K., ERDEM T.  
JOURNAL OF APPLIED PHYSICS, cilt.129, sa.15, 2021 (SCI-Expanded)
- VIII. Parameter investigation of topological data analysis for EEG signals  
ALTINDİŞ F., YILMAZ B., Borisenok S., İÇÖZ K.  
Biomedical Signal Processing and Control, cilt.63, 2021 (SCI-Expanded)
- IX. Immunomagnetic separation of B type acute lymphoblastic leukemia cells from bone marrow with flow cytometry validation and microfluidic chip measurements  
İÇÖZ K., EKEN A., Cinar S., Murat A., ÖZCAN S., ÜNAL E., Deniz G.  
SEPARATION SCIENCE AND TECHNOLOGY, cilt.56, sa.15, ss.2659-2666, 2021 (SCI-Expanded)
- X. Microfluidic Chip based direct triple antibody immunoassay for monitoring patient comparative

- response to leukemia treatment**  
İÇÖZ K., Akar U., ÜNAL E.  
BIOMEDICAL MICRODEVICES, cilt.22, sa.3, 2020 (SCI-Expanded)
- XI. **Image-analysis based readout method for biochip: Automated quantification of immunomagnetic beads, micropads and patient leukemia cell**  
Uslu F., İÇÖZ K., TAŞDEMİR K., DOĞAN R. S., YILMAZ B.  
MICRON, cilt.133, 2020 (SCI-Expanded)
- XII. **Feedback controller designs for an electromagnetic micromanipulator**  
Boyuk M., Eroglu Y., Ablay G., İçöz K.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART I-JOURNAL OF SYSTEMS AND CONTROL ENGINEERING, 2019 (SCI-Expanded)
- XIII. **Design, modeling, and control of a horizontal magnetic micromanipulator**  
ABLAY G., Boyuk M., İÇÖZ K.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, cilt.41, sa.11, ss.3190-3198, 2019 (SCI-Expanded)
- XIV. **Automated quantification of immunomagnetic beads and leukemia cells from optical microscope images**  
Uslu F., İÇÖZ K., TAŞDEMİR K., YILMAZ B.  
BIOMEDICAL SIGNAL PROCESSING AND CONTROL, cilt.49, ss.473-482, 2019 (SCI-Expanded)
- XV. **Capturing B type acute lymphoblastic leukemia cells using two types of antibodies**  
İÇÖZ K., Gercek T., Murat A., ÖZCAN S., ÜNAL E.  
BIOTECHNOLOGY PROGRESS, cilt.35, sa.1, 2019 (SCI-Expanded)
- XVI. **Quartz-crystal Microbalance Measurements of CD19 Antibody Immobilization on Gold Surface and Capturing B Lymphoblast Cells: Effect of Surface Functionalization**  
İÇÖZ K., SOYLU M. Ç., Canikara Z., ÜNAL E.  
ELECTROANALYSIS, cilt.30, sa.5, ss.834-841, 2018 (SCI-Expanded)
- XVII. **Detection of Proteins Using Nano Magnetic Particle Accumulation-Based Signal Amplification**  
İÇÖZ K., MZAVA O.  
Applied Sciences-Basel, cilt.6, sa.12, 2016 (SCI-Expanded)
- XVIII. **Image Processing and Cell Phone Microscopy to Analyze the Immunomagnetic Beads on Micro-Contact Printed Gratings**  
İÇÖZ K.  
APPLIED SCIENCES-BASEL, cilt.6, sa.10, 2016 (SCI-Expanded)
- XIX. **Magnetic micro/nanoparticle flocculation-based signal amplification for biosensing**  
MZAVA O., TAS Z., İÇÖZ K.  
INTERNATIONAL JOURNAL OF NANOMEDICINE, cilt.11, ss.2619-2631, 2016 (SCI-Expanded)
- XX. **Micro- and nanodevices integrated with biomolecular probes**  
Alapan Y., İÇÖZ K., Gurkan U. A.  
BIOTECHNOLOGY ADVANCES, cilt.33, sa.8, ss.1727-1743, 2015 (SCI-Expanded)
- XXI. **Using Students' Performance to Improve Ontologies for Intelligent E-Learning System**  
İÇÖZ K., SANALAN V. A., Cakar M. A., Özdemir E. B., Kaya S.  
EDUCATIONAL SCIENCES-THEORY & PRACTICE, cilt.15, sa.4, ss.1039-1049, 2015 (SSCI)
- XXII. **On-demand weighing of single dry biological particles over a 5-order-of-magnitude dynamic range**  
Chan B., İÇÖZ K., Huang W., Chang C., Savran C. A.  
LAB ON A CHIP, cilt.14, sa.21, ss.4188-4196, 2014 (SCI-Expanded)
- XXIII. **Selective Weighing of Individual Microparticles Using a Hybrid Micromanipulator-Nanomechanical Resonator System**  
Chan B., Icoz K., Gieseck R. L., Savran C. A.  
IEEE SENSORS JOURNAL, cilt.13, sa.8, ss.2857-2862, 2013 (SCI-Expanded)
- XXIV. **A Compact Manually Actuated Micromanipulator**  
Chan B., Mateen F., Chang C., Icoz K., Savran C. A.

- JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, cilt.21, sa.1, ss.7-9, 2012 (SCI-Expanded)
- XXV. **Nanomechanical biosensing with immunomagnetic separation**  
Icoz K., Savran C.  
APPLIED PHYSICS LETTERS, cilt.97, sa.12, 2010 (SCI-Expanded)
- XXVI. **Diffractometric Detection of Proteins Using Microbead-Based Rolling Circle Amplification**  
Lee J., Icoz K., Roberts A., Ellington A. D., Savran C. A.  
ANALYTICAL CHEMISTRY, cilt.82, sa.1, ss.197-202, 2010 (SCI-Expanded)
- XXVII. **Noise analysis and sensitivity enhancement in immunomagnetic nanomechanical biosensors**  
Icoz K., Iverson B. D., Savran C.  
APPLIED PHYSICS LETTERS, cilt.93, sa.10, 2008 (SCI-Expanded)

### **Düger Dergilerde Yayınlanan Makaleler**

- I. **Microfluidic Devices: A New Paradigm in Toxicity Studies**  
BOŞGELMEZ İ. İ., İÇÖZ K., YİĞİT F. E.  
Hacettepe Journal of Biology and Chemistry, cilt.48, sa.3, 2020 (Hakemli Dergi)
- II. **Improving short-term memory performance of healthy young males using alpha band neurofeedback**  
Gökşin B., YILMAZ B., İÇÖZ K.  
NeuroRegulation, cilt.6, sa.1, ss.15-22, 2019 (Scopus)
- III. **Ball Lens Based Mobile Microscope**  
İÇÖZ K.  
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGİSİ, cilt.19, sa.4, ss.603-610, 2016 (ESCI)
- IV. **Küresel Lens Temelli Mobil Mikroskop**  
İÇÖZ K.  
Politeknik Dergisi, cilt.19, sa.4, ss.603-610, 2016 (Hakemli Dergi)

### **Kitap & Kitap Bölümleri**

- I. **Biyosinyal İşleme**  
İÇÖZ K.  
Biyomedikal Mühendisliğinin Temelleri, Asyalı M., Kara S., Yılmaz B., Editör, Nobel Yayın Dağıtım, Ankara, ss.253-301, 2014

### **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

- I. **A backstepping based contactless manipulation of a magnetic microparticle**  
ABLAY G., Eroğlu Y., Böyük M., İÇÖZ K.  
International Conference on Material Science and Technology (IMSTEC'19), Ankara, Türkiye, 18 - 20 Ekim 2019
- II. **Geriadımlamalı Yaklaşım ile Bir Manyetik Mikromanipülatörün Kontrolü**  
ABLAY G., Eroğlu Y., Böyük M., İÇÖZ K.  
Otomatik Kontrol Ulusal Toplantısı, TOK2019, Türkiye, 11 - 14 Eylül 2019, ss.221-224
- III. **On the Magnetic Tweezer Design and Modeling**  
ABLAY G., İÇÖZ K., Böyük M., Eroğlu Y.  
International Eurasian Conference on Biological and Chemical Sciences (EURASIANBIOCHEM 2019), Ankara, Türkiye, 28 - 29 Haziran 2019
- IV. **Image-processing based signal readout method for MRD biochip MRD BiyoçIP İçin Görüntü İşleme Temelli Sinyal Elde Etme Metodu**  
uslu F., İÇÖZ K., TAŞDEMİR K.

27th Signal Processing and Communications Applications Conference, SIU 2019, Sivas, Türkiye, 24 - 26 Nisan 2019

- V. **LOW-COST MICROFLUIDICS FOR MONITORING MINIMAL RESIDUAL DISEASE(MRD)**  
akar ü., İÇÖZ K.  
International Summit of Innovation in Medicine-4, 11 - 13 Ekim 2018, ss.43-46
- VI. **Active control of magnetic particles with a horizontal magnetic tweezer**  
ABLAY G., BÖYÜK M., Eroğlu Y., İÇÖZ K.  
International Mediterranean Science and Engineering Congress (IMSEC 2018), Adana, Türkiye, 24 - 26 Ekim 2018
- VII. **MEASUREMENT OF THE IMPACT OF ADP ON BLOOD COAGULATIONUSING PAPER BASED BIOSENSORS**  
GERÇEK T., İÇÖZ K.  
3rd International Energy and Engineering Congress, Gaziantep, Türkiye, 18 - 19 Ekim 2018, ss.28-32
- VIII. **A horizontal magnetic tweezer for single molecule micromanipulations**  
ABLAY G., BÖYÜK M., Eroğlu Y., İÇÖZ K.  
International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT 2018), Ankara, Türkiye, 19 - 21 Ekim 2018
- IX. **Use of Topological Data Analysis in Motor Intention Based Brain-Computer Interfaces**  
ALTINDİŞ F., YILMAZ B., BORISENOK S., İÇÖZ K.  
European Signal Processing Conference (EUSIPCO), Rome, İtalya, 3 - 07 Ağustos 2018, ss.1695-1699
- X. **Micromanipulation based on electromagnetic actuators**  
ABLAY G., İÇÖZ K., BÖYÜK M.  
International Scientific and Vocational Studies Congress (BILMES2018), Nevşehir, Türkiye, 5 - 08 Temmuz 2018
- XI. **The Impact of Protein G Layer on 11-Mercaptoundecanoic Acid Coated Gold Surface for Antibody Immobilization**  
İÇÖZ K., SOYLU M. Ç.  
International Congress on Engineering and Life Science, 26 - 29 Nisan 2018
- XII. **Electromagnetic Micromanipulator Designs for Biological Species**  
BÖYÜK M., İÇÖZ K., ABLAY G.  
International Eurasian Conference on Biological and Chemical Sciences (EURASIANBIOCHEM 2018), Ankara, Türkiye, 16 - 20 Nisan 2018, ss.156-162
- XIII. **Design of Magnetic Tweezers for Single Molecule Manipulation**  
CANLILAR M. A., SELİM F. T., PAYAS A., BÖYÜK M., İÇÖZ K., ABLAY G.  
International Conference on Materials Science Mechanical and Automation Engineering and Technology (IMSMATEC 2018), İzmir, Türkiye, 10 - 12 Nisan 2018, ss.1-5
- XIV. **Design of a magnetic actuator based microsensor system**  
ABLAY G., İÇÖZ K.  
International Mediterranean Science and Engineering Congress (IMSEC 2017), Adana, Türkiye, 25 - 27 Ekim 2017
- XV. **Design of magnetic actuator based microsensor system**  
ABLAY G., İÇÖZ K.  
2nd International Mediterranean Science and Engineering Congress, 25 - 27 Ekim 2017
- XVI. **Capturing Leukemia Cells Using Two Different Antibodies**  
gerçek t., İÇÖZ K.  
2nd International Mediterranean Science and Engineering Congress, 25 - 27 Ekim 2017
- XVII. **Nickel Micro Pads and Columns For Trapping Immunomagnetic Beads and Captured Leukemia Cells**  
böyük m., Hassan M., ABLAY G., İÇÖZ K.  
2nd International Conference on Material Science and Technology in Cappadocia, 11 - 13 Ekim 2017
- XVIII. **Nickel micro pads and columns for trapping immunomagnetic beads and captured leukemia cells**  
BÖYÜK M., HASAN M., ABLAY G., İÇÖZ K.  
2nd International Conference on Material Science and Technology in Cappadocia (IMSTEC 2017), Nevşehir, Türkiye, 10 - 11 Ekim 2017
- XIX. **Immunomagnetic capture efficiency of leukemia cells**  
İÇÖZ K.  
22nd International Biomedical Science and Technology Symposium, 12 - 14 Mayıs 2017

- XX. **MRD Biochip**  
İÇÖZ K.  
Select Bioscience BioMEMS and Microfluidics: Technologies and Applications Conference, Boston, Amerika Birleşik Devletleri, 16 - 17 Mart 2017
- XXI. **Cultivation-Free Bacteria Detection from Water Samples**  
İÇÖZ K.  
2nd International Water and Health Congress, 14 - 17 Şubat 2017
- XXII. **Immobilization of Tumor Cells on Micro Pads for Image Based Quantification**  
İÇÖZ K.  
Istanbul International Conference On Progress in Applied Science, 4 - 06 Ocak 2017
- XXIII. **IMMOBILIZATION OF TUMOR CELLS ON MICRO PADS FOR IMAGE BASED QUANTIFICATION**  
İÇÖZ K.  
1th International Conference on Progress in Applied Science, İstanbul, Türkiye, 4 - 06 Ocak 2017, ss.327-328
- XXIV. **Cell Phone Microscopy + Image Processing: Low Cost Readout Method for BioMEMS**  
İÇÖZ K.  
3rd International Congress on Biosensors, Ankara, Türkiye, 5 - 07 Ekim 2016, ss.35
- XXV. **Micro/Nano Magnetic Particle Accumulation on Micro Contact-Printed Gratings**  
İÇÖZ K.  
12th International Nanoscience and Nanotechnology Conference, Kocaeli, Türkiye, 3 - 05 Haziran 2016, ss.70
- XXVI. **Magnetic-particle based signal amplification method integrated with mobile-devices for low cost biosensing**  
Mzava O., Tas Z., Lafci V. C., Cakar M. A., Ozdur I., İÇÖZ K.  
26th Anniversary World Congress on Biosensors (Biosensors), Gothenburg, İsveç, 25 - 27 Mayıs 2016, cilt.27, ss.14-15
- XXVII. **Point-of-Care Screening for Sickle Cell Disease By a Mobile Micro-Electrophoresis Platform**  
Ung R., Alapan Y., Hasan M. N., Romelfanger M., He P., Tam A., Rosanwo T., Akkus A., CAKAR M. A., İÇÖZ K., et al.  
57th Annual Meeting of the American-Society-of-Hematology, Florida, Amerika Birleşik Devletleri, 5 - 08 Aralık 2015, cilt.126
- XXVIII. **AN ONTOLOGY EDITOR: CREATING CONCEPT MAPS FOR SEMANTIC WEB BASED E-LEARNING SYSTEMS**  
İcoz K., CAKAR M. A., YİĞİT T., Egi S.  
8th International Technology, Education and Development Conference (INTED), Valencia, İspanya, 10 - 12 Mart 2014, ss.7505-7509

## Desteklenen Projeler

İçöz K., Yılmaz B., TÜBİTAK Projesi, MRD Biyoçip: Minimal Rezidüel Hastalığın Basit ve Güvenilir bir yolla izlenmesi, 2015 - 2020  
 İÇÖZ K., Yükseköğretim Kurumları Destekli Proje, Manyetik Parçacıkların kullanıldığı biyosensörlerde mikronano demir parçacıklar kullanarak işaret artırma ve mobil cihazlardan algılama sisteminin geliştirilmesi, 2015 - 2017  
 YILMAZ B., İÇÖZ K., BORISENOK S., ERKUTLU İ., Yükseköğretim Kurumları Destekli Proje, Motor niyet dalgaları tabanlı ihtiyaç iletim sistemi tasarımı, 2015 - 2017  
 İÇÖZ K., TÜBİTAK Projesi, Manyetik Parçacıkların Kullanıldığı Biyosensörlerde Mikro/Nano Demir Parçacıklar Kullanarak İşaret Arttırma Ve Hassasiyeti Geliştirme, 2014 - 2017  
 İÇÖZ K., TÜBİTAK Projesi, E-öğrenme portalı için akıllı sistem tasarımı, 2013 - 2016

## Metrikler

Atıf (WoS): 247

Atıf (Scopus): 264

H-İndeks (WoS): 9

H-İndeks (Scopus): 10

## Kongre ve Sempozyum Katılımı Faaliyetleri

Electrochemical nucleic acid based biosensors/microfluidic devices for healthcare applications, Katılımcı, Birleşik Krallık, 2016

## Akademi Dışı Deneyim

Ticari Kuruluş (özel), Intel Corp., Metrology And Inspection Systems