

## Asst. Prof. Ceyhun Ekrem KIRIMLI

### Personal Information

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### International Researcher IDs

ORCID: 0000-0001-7470-0059

Publons / Web Of Science ResearcherID: H-4647-2016

ScopusID: 55595592500

Yoksis Researcher ID: 250813

### Education Information

Doctorate, Drexel University, School Of Biomedical Engineering Science And Health Systems, United States Of America  
2008 - 2014

Postgraduate, Bogazici University, Institute Of Biomedical Engineering, Biyomedikal Mühendisliği (YI) (Tezli), Turkey  
2005 - 2008

Undergraduate, Bogazici University, Faculty Of Arts And Sciences, Department Of Molecular Biology And Genetics, Turkey  
1999 - 2005

### Certificates, Courses and Trainings

Other, Mastering Quantum Mechanics, Massachusetts Institute of Technology, 2015

Other, Introduction to Linear Models and Matrix Algebra, Harvard University, 2015

Other, Statistics and R for the Life Sciences, Harvard University, 2015

Other, Embedded Systems - Shape the World, The University of Texas at Austin, 2015

Other, Electronic Interfaces: Bridging the Physical and Digital Worlds, University of California, Berkeley, 2015

### Dissertations

Doctorate, In situ detection of transrenal gene mutations without DNA isolation and amplification using Array Piezoelectric Plate Sensor (PEPS), Drexel University, School Of Biomedical Engineering Science And Health Systems, 2013

Postgraduate, Working memory performance assessment while monitoring the prefrontal cortex hemodynamics by means of functional near infrared spectroscopy, Bogazici University, Biyomedikal Mühendisliği Enstitüsü, Biyomedikal Mühendisliği (YI) (Tezli), 2008

### Research Areas

Bioinstrumentation and Microelectromechanical Systems (MEMS)

## Academic Titles / Tasks

Assistant Professor, Acibadem Mehmet Ali Aydinlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2016 - Continues

Teacher, Drexel University, School of Biomedical Engineering Science and Health Systems, 2008 - 2013

Research Assistant, Drexel University, School Of Biomedical Engineering Science And Health Systems, 2008 - 2013

## Courses

### Doctorate

Biomicroelectromechanical Systems, Doctorate, 2024 - 2025

Advanced Biosensors, Doctorate, 2023 - 2024, 2022 - 2023

Biomicroelectromechanical Systems, Doctorate, 2023 - 2024

### Postgraduate

Biosensors, Postgraduate, 2023 - 2024

Bio-Microelectromechanic Systems, Postgraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022

Biosensors, Postgraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2018 - 2019, 2017 - 2018, 2016 - 2017

### Undergraduate

Senior Design II, Undergraduate, 2023 - 2024

Point of Care Technologies, Undergraduate, 2024 - 2025

Point of Care Technologies, Undergraduate, 2024 - 2025

Technical Drawing, Undergraduate, 2023 - 2024, 2022 - 2023

Biosensors, Undergraduate, 2023 - 2024, 2021 - 2022, 2020 - 2021

Senior Design 1, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023

Point of Care Technologies, Undergraduate, 2023 - 2024, 2022 - 2023

Technical Drawing, Undergraduate, 2022 - 2023

Senior Design, Undergraduate, 2021 - 2022

Biosensors, Undergraduate, 2020 - 2021

Senior Design I, Undergraduate, 2021 - 2022

Point of Care Technologies, Undergraduate, 2021 - 2022, 2018 - 2019, 2017 - 2018

Bio-Microelectromechanical Systems, Undergraduate, 2020 - 2021

Human Anatomy and Physiology, Undergraduate, 2016 - 2017

## Supervised Theses

Kırımli C. E., GÖK Ö., Design of DNA-Hydrogel Based Quartz Crystal Microbalance, Postgraduate, M.CANSU(Student), 2020

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

- I. **An Investigation Into the Impact of Impedance Measurement Parameters on the Limit of Detection of QCM-D Using Machine Learning Model Chaining**  
KIRIMLI C. E., KIRIMLI E. E., Yuksel M. M., Tugtag S. Y.  
IEEE SENSORS JOURNAL, vol.25, no.3, pp.5688-5696, 2025 (SCI-Expanded)
- II. **Small world properties of schizophrenia and OCD patients derived from fNIRS based functional brain network connectivity metrics**  
AKIN A., Yorgancıgil E., Öztürk O. C., SÜTÇÜBAŞI B., KIRIMLI C. E., Elgün Kırımli E. E., DURLU S. N., YUKSELEN G., ERDOĞAN S. B.  
SCIENTIFIC REPORTS, vol.14, no.1, 2024 (SCI-Expanded)

- III. **Hydrogel-Integrated Heart-on-a-Chip Platform for Assessment of Myocardial Ischemia Markers**  
Ates B., Eroglu T., Sahsuvar S., KIRIMLI C. E., Kocaturk O., SENAY S., Gok Ö.  
ACS Omega, vol.9, no.41, pp.42103-42115, 2024 (SCI-Expanded)
- IV. **A Novel Peptide-Based Detection of SARS-CoV-2 Antibodies**  
Bulut A., Temur B. Z., Kirimli C. E., Gok Ö., Balcioğlu B. K., Ozturk H. U., Uyar N., Kanlidere Z., Kocagoz T., Can Ö.  
BIOMIMETICS, vol.8, no.1, 2023 (SCI-Expanded)
- V. **Rapid, label-free genetic detection of enteropathogens in stool without genetic isolation or amplification**  
Han S., SOYLU M. Ç., KIRIMLI C. E., Wu W., Sen B., Joshi S. G., Emery C. L., Au G., Niu X., Hamilton R., et al.  
BIOSENSORS & BIOELECTRONICS, vol.130, pp.73-80, 2019 (SCI-Expanded)
- VI. **In situ, amplification-free double-stranded mutation detection at 60 copies/ml with thousand-fold wild type in urine**  
Kirimli C. E., Lin S., Su Y., Shih W., Shih W. Y.  
BIOSENSORS & BIOELECTRONICS, vol.119, pp.221-229, 2018 (SCI-Expanded)
- VII. **Piezoelectric Plate Sensor (PEPS) for Analysis of Specific KRAS Point Mutations at Low Copy Number in Urine Without DNA Isolation or Amplification**  
Kirimli C. E., Shih W., Shih W. Y.  
BIOSENSORS AND BIODETECTION: METHODS AND PROTOCOLS, VOL 2: ELECTROCHEMICAL, BIOELECTRONIC, PIEZOELECTRIC, CELLULAR AND MOLECULAR BIOSENSORS, 2ND EDITION, vol.1572, pp.327-348, 2017 (SCI-Expanded)
- VIII. **Amplification-free in situ KRAS point mutation detection at 60 copies per mL in urine in a background of 1000-fold wild type**  
Kirimli C. E., Shih W., Shih W. Y.  
ANALYST, vol.141, no.4, pp.1421-1433, 2016 (SCI-Expanded)
- IX. **Specific in situ hepatitis B viral double mutation (HBVDM) detection in urine with 60 copies ml(-1) analytical sensitivity in a background of 250-fold wild type without DNA isolation and amplification**  
Kirimli C. E., Shih W., Shih W. Y.  
ANALYST, vol.140, no.5, pp.1590-1598, 2015 (SCI-Expanded)
- X. **DNA hybridization detection with 100 zM sensitivity using piezoelectric plate sensors with an improved noise-reduction algorithm**  
Kirimli C. E., Shih W., Shih W. Y.  
ANALYST, vol.139, no.11, pp.2754-2763, 2014 (SCI-Expanded)
- XI. **Real-time, in situ DNA hybridization detection with attomolar sensitivity without amplification using (pb(Mg1/3Nb2/3)O-3)(0.65)-(PbTiO3)(0.35) piezoelectric plate sensors**  
Wu W., Kirimli C. E., Shih W., Shih W. Y.  
BIOSENSORS & BIOELECTRONICS, vol.43, pp.391-399, 2013 (SCI-Expanded)
- XII. **Temperature- and flow-enhanced detection specificity of mutated DNA against the wild type with reporter microspheres**  
Kirimli C. E., Shih W., Shih W. Y.  
ANALYST, vol.138, no.20, pp.6117-6126, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **A Comparison of Impedance and Antenna Analyzers on the Basis of Machine Learning Assisted Limit of Detection Experiments**  
Kirimli E. E., Kirimli C. E.  
2022-International Workshop on Impedance Spectroscopy (IWIS), vol.1, no.1, pp.61-65, 2022 (Conference Book)
- II. **Machine learning approach to optimization of parameters for impedance measurements of Quartz Crystal Microbalance to improve limit of detection**  
KIRIMLI C. E., Elgun E. E., Unal U.

## Books

- I. **Piezoelectric Plate Sensor (PEPS) for Analysis of Specific KRAS Point Mutations at Low Copy Number in Urine Without DNA Isolation or Amplification**  
KIRIMLI C. E., Shih W. H., Shih W. Y.  
in: Biosensors and Biodetection Methods and Protocols, Volume 2: Electrochemical, Bioelectronic, Piezoelectric, Cellular and Molecular Biosensors, Ben Prickril, Avraham Rasooly, Editor, Humana Press, New York, NY, New-York, pp.327-348, 2019

## Papers Published in Refereed Scientific Meetings

- I. **A Comparison of Impedance and Antenna Analyzers on the Basis of Machine Learning Assisted Limit of Detection Experiments**  
KIRIMLI C. E., KIRIMLI E. E.  
International Workshop on Impedance Spectroscopy (IWIS), Chemnitz, Germany, 27 - 30 September 2022, pp.61-65
- II. **Performance Comparison Of 2 Different Battery Powered Mobile Antenna Analyzers And One Dedicated Mobile Open Source Qcm Platform**  
Kirimli C. E., Bulut A.  
2. Biyomedikal Mühendisliğinde Yenilikler Kongresi, İzmir, Turkey, 18 - 19 September 2020, pp.1-5
- III. **Wireless Readout System Modeling for Electrodeless QCM**  
Sari A., Batur O. Z., Kirimli C. E.  
16th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), Lausanne, Switzerland, 15 - 18 July 2019, pp.149-152
- IV. **"Do It Yourself" Peristaltic Pump and Flowcell for QCM Biosensor**  
Cetin I., Yilmaz G., Halilibrahimoglu H., Kirimli C. E.  
21st National Biomedical Engineering Meeting (BIYOMUT), İstanbul, Turkey, 24 November - 26 December 2017

## Peer Reviews in Scientific Publications

RSC ADVANCES, SCI Journal, August 2022

RSC ADVANCES, SCI Journal, June 2022

## Scientific Project Refereeing

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, November 2022

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, November 2022

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, November 2022

## Metrics

Publication: 20

Citation (WoS): 78

Citation (Scopus): 82

H-Index (WoS): 6

H-Index (Scopus): 6

### **Congress and Symposium Activities**

TIPTEKNO 2017, Invited Speaker, Trabzon, Turkey, 2017

### **Scholarships**

TUBITAK, 2022 - 2022