

## Assoc. Prof. EMİNE KAPANCIK ÜLKER

### Personal Information

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### International Researcher IDs

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Yoksis Researcher ID: 104298

### Education Information

Doctorate, Recep Tayyip Erdogan University, Fen Bilimleri, Kimya, Turkey 2010 - 2014

Postgraduate, Gazi University, Fen Bilimleri, Kimya Eğitimi, Turkey 2007 - 2009

Undergraduate, Gazi University, Gökçeada Uygulamalı Bilimler Y.O., Kimya Eğitimi, Turkey 2002 - 2007

### Dissertations

Doctorate, 3,3'-Diaminobenzidinin Kopolimer ve Kompozitlerinin Elektrokimyasal Olarak Hazırlanması, Karakterizasyonu ve Fenolik Bileşiklerin Tayininde Kullanılması, Recep Tayyip Erdogan University, Fen Bilimleri Enstitüsü, Kimya, 2014

Postgraduate, Kimya Öğretmen Adaylarının Bilimin Doğası Hakkındaki Görüşleri İle İlgili Boylamsal Bir Çalışma, Gazi University, Fen Bilimleri Enstitüsü, Kimya Eğitimi, 2009

### Research Areas

Chemistry, Analytical Chemistry, Electromagnetic Methods, Natural Sciences

### Academic Titles / Tasks

Assistant Professor, Recep Tayyip Erdogan University, Fen Edebiyat Fakültesi, Kimya Bölümü, 2018 - Continues

Assistant Professor, Recep Tayyip Erdogan University, Fen Edebiyat Fakültesi, Kimya Bölümü, 2016 - 2018

Research Assistant PhD, Recep Tayyip Erdogan University, Fen Edebiyat Fakültesi, Kimya Bölümü, 2014 - 2016

Research Assistant, Recep Tayyip Erdogan University, Fen Edebiyat Fakültesi, Kimya Bölümü, 2008 - 2014

### Courses

Analitik Kimya-I, Undergraduate, 2022 - 2023

Kimyacılar İçin Matematik, Undergraduate, 2022 - 2023

Elektrokimyaya Giriş, Undergraduate, 2020 - 2021

Mühendislik Kimyası, Undergraduate, 2020 - 2021

Uygulamalı Mühendislik Kimyası, Undergraduate, 2019 - 2020

Analitik Kimya-II, Undergraduate, 2016 - 2017

Uygulamalı Mühendislik Kimyası, Undergraduate, 2016 - 2017

## Advising Theses

Kapancık Ülker E., Postgraduate, B.DEREÇİ(Student), 2023

Ülker E., Nikel borat bileşiklerinin suyun yükseltgenmesi alanında elektrokatalitik aktivitelerinin incelenmesi, Postgraduate, S.ENEZ(Student), 2022

## Jury Memberships

Post Graduate, Post Graduate, Recep Tayyip Erdoğan Üniversitesi, December, 2022

Post Graduate, Yüksek Lisans tez savunma Jürisi, Recep Tayyip Erdoğan Üniversitesi, June, 2016

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

- I. **Enhancing Oxygen Evolution Catalytic Performance of Nickel Borate with Cobalt Doping and Carbon Nanotubes**  
Enez S., Konuksever V. K., Samuei S., KARADAŞ F., KAPANCIK ÜLKER E.  
CHEMISTRYSELECT, vol.8, no.7, 2023 (SCI-Expanded)
- II. **Cobalt borophosphate on nickel foam as an electrocatalyst for water splitting**  
ÜLKER E., Akbari S. S., Karadas F.  
MATERIALS CHEMISTRY AND PHYSICS, vol.288, 2022 (SCI-Expanded)
- III. **Effect of cobalt doping on photocatalytic water splitting activity of NiTi-layered double hydroxide**  
Samuei S., Akbari S. S., ÜLKER E., KARADAŞ F.  
CATALYSIS SCIENCE & TECHNOLOGY, vol.12, no.9, pp.3044-3053, 2022 (SCI-Expanded)
- IV. **Anticancer evaluation of a manganese complex on HeLa and MCF-7 cancer cells: design, deterministic solvothermal synthesis approach, Hirshfeld analysis, DNA binding, intracellular reactive oxygen species production, electrochemical characterization and density functional theory**  
Abbas S., Rashid F., Ulker E., Zaib S., Ayub K., Ullah S., Nadeem M. A., Yousuf S., Ludwig R., Ali S., et al.  
JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS, vol.39, no.3, pp.1068-1081, 2021 (SCI-Expanded)
- V. **Preparation and Capacitance Properties of Graphene Quantum Dot/NiFe-Layered Double-Hydroxide Nanocomposite**  
Samuei S., Rezvani Z., Shomali A., ÜLKER E., KARADAŞ F.  
EUROPEAN JOURNAL OF INORGANIC CHEMISTRY, vol.2021, no.3, pp.258-266, 2021 (SCI-Expanded)
- VI. **Hydrothermally Synthesized Cobalt Borophosphate as an Electrocatalyst for Water Oxidation in the pH Range from 7 to 14**  
Ulker E.  
CHEMELECTROCHEM, vol.6, no.12, pp.3132-3138, 2019 (SCI-Expanded)
- VII. **Water Oxidation Electrocatalysis with a Cobalt-Borate-Based Hybrid System under Neutral Conditions**  
Turhan E. A., Nune S. V. K., Ulker E., Sahin U., Dede Y., Karadas F.  
CHEMISTRY-A EUROPEAN JOURNAL, vol.24, no.41, pp.10372-10382, 2018 (SCI-Expanded)
- VIII. **Tuning the Electronic Properties of Prussian Blue Analogues for Efficient Water Oxidation Electrocatalysis: Experimental and Computational Studies**  
Alsac E. P., Ulker E., Nune S. V. K., Dede Y., Karadas F.  
CHEMISTRY-A EUROPEAN JOURNAL, vol.24, no.19, pp.4856-4863, 2018 (SCI-Expanded)

- IX. **Electrocatalytic hydrogen evolution with cobalt-poly(4-vinylpyridine) metallopolymers**  
Kap Z., Ulker E., Nune S. V. K., Karadas F.  
JOURNAL OF APPLIED ELECTROCHEMISTRY, vol.48, no.2, pp.201-209, 2018 (SCI-Expanded)
- X. **A Cyanide-Based Coordination Polymer for Hydrogen Evolution Electrocatalysis**  
Alsac E. P., Ulker E., Nune S. V. K., Karadas F.  
CATALYSIS LETTERS, vol.148, no.2, pp.531-538, 2018 (SCI-Expanded)
- XI. **Metal Dicyanamides as Efficient and Robust Water-Oxidation Catalysts**  
Nune S. V. K., Basaran A. T., Ulker E., Mishra R., Karadas F.  
CHEMCATCHEM, vol.9, no.2, pp.300-307, 2017 (SCI-Expanded)
- XII. **One-Dimensional Copper(II) Coordination Polymer as an Electrocatalyst for Water Oxidation**  
Mishra R., Uelker E., Karadas F.  
CHEMELECTROCHEM, vol.4, no.1, pp.75-80, 2017 (SCI-Expanded)
- XIII. **Electrode Prepared with Combination of Different Conductive Polymers for Hydroquinone Determination in River Water**  
Ulker E., KAVANOZ M.  
ACTA CHIMICA SLOVENICA, vol.63, no.1, pp.47-54, 2016 (SCI-Expanded)
- XIV. **Determination of epinephrine in human serum using a Pt electrode modified by polyaniline-poly(3-methylthiophene)-poly(3,3'-diaminobenzidine)**  
Ulker E., Kavanoz M.  
CANADIAN JOURNAL OF CHEMISTRY, vol.93, no.11, pp.1239-1244, 2015 (SCI-Expanded)
- XV. **Synthesis of Poly(Vinylferrocene) Perchlorate/Poly(3,3'-Diaminobenzidine) Modified Electrode in Dichloromethane for Electroanalysis of Hydroquinone**  
Ulker E., Kavanoz M.  
JOURNAL OF THE BRAZILIAN CHEMICAL SOCIETY, vol.26, no.9, pp.1947-1955, 2015 (SCI-Expanded)
- XVI. **A Novel Polyaniline-Poly(3-Methylthiophene)-Poly(3,3'-Diaminobenzidine) Electrode for the Determination of Dopamine in Human Serum**  
Kavanoz M., Ulker E., BUK U.  
ANALYTICAL LETTERS, vol.48, no.1, pp.75-88, 2015 (SCI-Expanded)
- XVII. **Determination of Hydroquinone Using Poly(3-methylthiophene) Synthesized Electrochemically on Pt Electrode in Methylene Chloride**  
Kavanoz M., BUK U., Ulker E.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.131, no.19, 2014 (SCI-Expanded)

## Articles Published in Other Journals

- I. **The Effect of Polymer Capping Group to the Electrocatalytic WaterOxidation Activities of Prussian Blue Analogues**  
ÜLKER E.  
Journal of the Turkish Chemical Society Section A: Chemistry, vol.7, no.1, pp.225-232, 2020 (Scopus)
- II. **Non-Enzymatic phenol determination in river water over modified electrode with poly(3-methylthiophene)**  
KAVANOZ M., Bük U., Ülker E.  
HİTTİTE JOURNAL OF SCİENCE AND ENĐİNEERİNG, vol.3, no.1, pp.35-40, 2016 (Peer-Reviewed Journal)
- III. **Electroanalysis of Pyrocatechol in River Water Over Pt Electrode Modified with Polyaniline-Poly(3-methylthiophene)- Poly(3,3'-diaminobenzidine) Film**  
ÜLKER E., KAVANOZ M.  
Hacettepe J. Biol. & Chem., vol.43, no.3, pp.329-337, 2016 (Peer-Reviewed Journal)
- IV. **Non-Enzymatic Phenol Determination in River Water Over Modified Electrode with Poly(3-methylthiophene)**  
KAVANOZ M., BUK U., ÜLKER E.

HİTTİTE JOURNAL OF SCIENCE AND ENGINEERING, vol.3, no.1, pp.35-40, 2016 (Peer-Reviewed Journal)

V. **THE DETERMINATION OF DOPAC OVER POLYANILINEPOLY( 3-METHYLTHIOPHENE)-POLY(3,3'-DIAMINOBENZIDINE) ELECTRODE**

KAVANOZ M., ÜLKER E.

JOURNAL OF THE TURKISH CHEMICAL SOCIETY, SECTION A: CHEMISTRY, no.2, pp.36-41, 2015 (Peer-Reviewed Journal)

VI. **A New Modified Electrode Based on Poly(3,3'diaminobenzidine) – Poly(3methylthiophene) Copolymer Film for Amperometric Determination of Catechol**

KAVANOZ M., ÜLKER E., BUK U.

AWERProcedia Advences in Applied Sciences, no.1, pp.741-747, 2013 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

I. **Nickel Oxide Compounds Treated with Tea Wastes As Electrocatalysts for Water Oxidation**

Üzüm A., Dereci B., Kapancı Ülker E.

Recep Tayyip Erdoğan Üniversitesi Ulusal Çay Kongresi , Rize, Turkey, 21 - 23 May 2024, pp.148-149

II. **EFFECT OF CARBON NANOTUBE ON THE ELECTROCHEMICAL WATER SPLITTING ACTIVITY OF METAL BORATE**

DERECİ B., KAPANCIK ÜLKER E.

ICSAS 2ND INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, 19 - 21 April 2024

III. **A NEW MODIFIED ELECTRODE BASED ON METAL BORATE FOR AMPEROMETRIC GLUCOSE DETERMINATION**

DERECİ B., KAPANCIK ÜLKER E.

ICSAS 2ND INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, 19 - 21 April 2024

IV. **THE EFFECT OF COBALT ON ELECTROCATALYTIC PERFORMANCE OF Ni<sub>3</sub>B<sub>2</sub>O<sub>6</sub> ON WATER OXIDATION IN ALKALINE MEDIUM**

Enez S., Samuei S., KARADAŞ F., ÜLKER E.

9th Global Congress on Renewable Energy and Environment, Girne, Cyprus (Kkct), 08 July 2021

V. **COBALT-NICKEL BORATE WITH KOTOITE STRUCTURE BASED HYBRID MATERIAL AS WATER OXIDATION ELECTROCATALYST**

Enez S., Samuei S., KARADAŞ F., ÜLKER E.

9th Global Congress on Renewable Energy and Environment, Girne, Cyprus (Kkct), 08 July 2021

VI. **THE EFFECT OF SECONDARY METAL ON PERFORMANCE OF COPPER BORATE FOR ELECTROCATALYTIC WATER OXIDATION**

ÜLKER E., Konuksever V. K.

2. INTERNATIONAL SCIENCES AND INNOVATION CONGRESS, Ankara, Turkey, 22 May 2021

VII. **Cobalt-Embedded Poly(3-Methyl Thiophene) Film as Electrocatalyst Toward Hydrogen Evolution Reaction**

ÜLKER E.

3. International Eurasian Conference on Biological and Chemical Sciences, 19 - 20 March 2020

VIII. **SOLID-STATE SYNTHESIZED COBALT-BASED BOROPHOSPHATE FOR ELECTROCATALYTIC WATER OXIDATION**

ÜLKER E.

International Conference on Physical Chemistry and Functional Materials, 19 - 21 June 2018

IX. **Solid-State Synthesized Cobalt Based Borophosphate for Electrocataytic Water Oxidation**

ÜLKER E.

International Conference on Physical Chemistry and Functional Materials, Elazığ, Turkey, 19 - 21 June 2018

X. **Zirconium Metal-Organic Framework Platform as a Heterogeneous Catalysts for Electrochemical Hydrogen Evolution**

ÜLKER E., DEMİR S.

The Third International Hydrogen Technologies Congress, Antalya, Turkey, 15 - 18 March 2018

- XI. **Metal-Organic Frameworks as Hydrogen Evolution Catalysts**  
DEMİR S., ÜLKER E.  
The Third International Hydrogen Technologies Congress, Antalya, Turkey, 15 - 18 March 2018
- XII. **Zirconium Metal-Organic Framework Platform as a Heterogeneous Catalysts for Electrochemical Hydrogen Evolution**  
ÜLKER E., DEMİR S.  
3rd International Hydrogen Technologies Congress, Antalya, Turkey, 15 - 18 March 2018, pp.189-191
- XIII. **Metal-Organic Frameworks as Hydrogen Evolution Catalysts**  
DEMİR S., ÜLKER E.  
3rd International Hydrogen Technologies Congress, Antalya, Turkey, 15 - 18 March 2018, pp.192-193
- XIV. **Cyanide-based Coordination Networks as Bifunctional Electrocatalysts for Overall Water Splitting**  
Alsaç E. P., NUNE S. V. K., ÜLKER E., KARADAS F.  
Faraday Discussions on Artificial Photosynthesis, Kyoto, Japan, 28 February - 02 March 2017
- XV. **Cobalt-based Coordination Compounds as Heterogeneous Water Oxidation Catalysts**  
NUNE S. V. K., Alsaç E. P., ÜLKER E., KARADAS F.  
67th Conference of International Society of Electrochemistry, Lahey, Netherlands, 21 - 26 August 2016
- XVI. **Cobalt-Based Coordination Compounds For Electrocatalytic Water Oxidation**  
ÜLKER E., BASARAN A. T., NUNE S. V. K., KARADAS F.  
6. Kataliz Kongresi, Bursa, Turkey, 27 - 30 April 2016, pp.168
- XVII. **Polianilin – Poli(3-metiltiyofen) - Poli (3,3'- diaminobenzidin) Elektrot Üzerinden DOPAC Tayini**  
KAVANOZ M., ÜLKER E.  
5. Fiziksel Kimya Kongresi, Konya, Turkey, 16 - 19 May 2015, pp.158
- XVIII. **Poli(3,3'-diaminobenzidin) - Poli(vinilferrosenyum) perklorat Modifiye Elektrot ile Amperometrik Hidrokinon Tayini**  
KAVANOZ M., ÜLKER E., BUK U.  
III. Ulusal Uygulamalı Elektrokimya Lisansüstü Yaz Okulu ve Çalıştayı, Balıkesir, Turkey, 3 - 07 June 2014, pp.8
- XIX. **Determination of Hydroquinone Using A New Poly (3,3'- diaminobenzidine)- Poly(3-Methylthiophene) (PDAB-P3MT) Modified Electrode**  
KAVANOZ M., ÜLKER E., BUK U.  
6th Black Sea Basin Conference on Analytical Chemistry, Trabzon, Turkey, 10 - 14 September 2013
- XX. **Determination of Phenol Using Modified Electrode Poly(3-methylthiophene) in Methylene Chloride**  
KAVANOZ M., BUK U., ÜLKER E.  
6th Black Sea Basin Conference on Analytical Chemistry, Trabzon, Turkey, 10 - 14 September 2013
- XXI. **Analysis of Tap Water Samples in The Eastern Black Sea Regions**  
KAVANOZ M., Çakmak Y., Özkan Ö., ÜLKER E.  
6th Black Sea Basin Conference on Analytical Chemistry, Trabzon, Turkey, 10 - 14 September 2013
- XXII. **A New Modified Electrode Synthesis Based on Poly 3 3 Diaminobenzidine Poly 3 Methylthiophene**  
ÜLKER E., KAVANOZ M., buk u.  
International Porous and Powder Materials Symposium and Exhibition, 3 - 06 September 2013
- XXIII. **Electrochemical Synthesis And Characterization Of A Novel Poly(3-Methylthiophene) Modified Electrode Containing Ferrocene**  
KAVANOZ M., BUK U., ÜLKER E.  
10th Internatioanal Electrochemistry Meeting in Turkey, Konya, Turkey, 4 - 08 September 2013, pp.134
- XXIV. **A Novel Poly(3,3'-Diaminobenzidine) / Poly(3-Methylthiophene) Modified Electrode For Determination Of Epinephrine**  
KAVANOZ M., ÜLKER E., BUK U.  
10th Internatioanal Electrochemistry Meeting in Turkey, Konya, Turkey, 4 - 08 September 2013, pp.111
- XXV. **Electrochemical Synthesis and Characterization of Poly (3,3'- diaminobenzidine) (PDAB) Modified Electrode in Non-Aqueous Media**  
KAVANOZ M., ÜLKER E., BUK U.

- International Porous Powder Materials Symposium and Exhibition, İzmir, Turkey, 3 - 06 September 2013, pp.136
- XXVI. **Electrochemical Preparation of A New Porous Poly(3,3'-diaminobenzidine) – Polyaniline (PDAB/PANI) Film**  
KAVANOZ M., ÜLKER E., BUK U.  
International Porous Powder Materials Symposium and Exhibition, İzmir, Turkey, 3 - 06 September 2013, pp.135
- XXVII. **A New Modified Electrode Synthesis Based on Poly (3,3'-diaminobenzidine) – Poly (3-Methylthiophene) (PDAB-P3MT)**  
KAVANOZ M., ÜLKER E., BUK U.  
International Porous Powder Materials Symposium and Exhibition, İzmir, Turkey, 3 - 06 September 2013, pp.136
- XXVIII. **Amperometric Determination of Phenol Using Modified Electrode Based On Poly (3,3'-diaminobenzidine) - Poly(3-Methylthiophene)**  
KAVANOZ M., ÜLKER E., BUK U.  
1. Uluslararası Katılımlı Elektrokimya Çalıştayı, Muğla, Turkey, 23 - 28 June 2013, pp.77
- XXIX. **Amperometric Determination of Dopamine Using Poly (3,3'- diaminobenzidine) - Poly(3-Methylthiophene) Modified Electrode**  
KAVANOZ M., ÜLKER E., BUK U.  
1. Uluslararası Katılımlı Elektrokimya Çalıştayı, Muğla, Turkey, 23 - 28 June 2013, pp.75
- XXX. **A New Modified Electrode Based on Poly 3 3 diaminobenzidine Poly 3 methylthiophene Copolymer Film for Amperometric Determination of Catechol**  
KAVANOZ M., ÜLKER E., BUK U.  
Global Conference on Environmental Studies, 24 - 27 April 2013
- XXXI. **Determination of Hydroquinone Using Modified Electrode Poly(3methylthiophene) in Methylene Chloride**  
KAVANOZ M., BUK U., ÜLKER E.  
1st Global Conference on Environmental Studies, Antalya, Turkey, 24 - 27 April 2013

## Supported Projects

- Kapancık Ülker E., TUBITAK Project, Çay Atıkları ile Muamele Edilmiş Nikel Oksit Bileşiklerinin Sentezi, Karakterizasyonu ve Suyun Yükseltgenmesinde Elektrokatalizör Olarak Kullanılması , 2023 - 2024
- Ülker E., Karadaş F., TUBITAK Project, Metal-Borat Bileşiklerinin Suyun Yükseltgenmesi Alanında Katalizör Olarak Kullanılmalarının Araştırılması, 2020 - 2022
- KAPANCIK ÜLKER E., Project Supported by Higher Education Institutions, Metal Borofosfat Bileşiklerinin Suyun Yükseltgenmesinde Elektrokatalizör Olarak Kullanılmalarının Araştırılması, 2017 - 2018
- TUBITAK Project, Prusya Mavisi Yapısına Sahip Nanoparçacıkların Sentezi, Karakterizasyonu ve Sudan Oksijen Üretilmesinde Elektrokatalizör Olarak Kullanılma Kapasitelerinin İncelenmesi, 2015 - 2016
- KAVANOZ M., TUBITAK Project, Ferrosen Türleri İçeren Poly(3,3'-Diaminobenzidin Ve Poly(3-Metiltiyofen) Elektrodlarının Elektrokimyasal Olarak Hazırlanması, Karakterizasyonu Ve Fenolik Bileşiklerin Tayininde Kullanılması, 2011 - 2014

## Scientific Refereeing

- Life and Science, Other Indexed Journal, April 2020
- CHEMELECTROCHEM, SCI Journal, September 2019
- JOURNAL OF THE TURKISH CHEMICAL SOCIETY, SECTION A: CHEMISTRY, National Scientific Refreed Journal, June 2016

## Metrics

Publication: 54

Citation (WoS): 179

Citation (Scopus): 249

H-Index (WoS): 7

H-Index (Scopus): 7

## **Congress and Symposium Activities**

3RD INTERNATIONAL EURASIAN CONFERENCE ON BIOLOGICAL AND CHEMICAL SCIENCES, Attendee, Ankara, Turkey, 2020

5. Fiziksel Kimya Kongresi, Attendee, Konya, Turkey, 2015

III. Ulusal Uygulamalı Elektrokimya Lisansüstü Yaz Okulu ve Çalıştayı, Attendee, Balıkesir, Turkey, 2014

Black Sea Basin Conference On Analytical Chemistry (6BBCAC), Attendee, Trabzon, Turkey, 2013

International Porous and Powder Materials Symposium and Exhibition, Attendee, İzmir, Turkey, 2013

10th International Electrochemistry Meeting in Turkey, Attendee, Konya, Turkey, 2013

Uluslararası Katılımlı Elektrokimya Çalıştayı Nanoyapı Modifiye Elektrokimyasal ve Biyoelektrokimyasal Sistemler, Muğla, Haziran 2013, Attendee, Muğla, Turkey, 2013

1st Global Conference on Environmental Studies, Attendee, Antalya, Turkey, 2013

II. Eser Analiz Çalıştayı, Karadeniz Teknik Üniversitesi, Kimya Bölümü, Attendee, Trabzon, Turkey, 2011

## **Scholarships**

DOKTORA SONRASI ARAŞTIRMA, TUBITAK, 2015 - 2016