

## Assoc. Prof. KADRIYE ÖZLEM HAMALOĞLU

### Personal Information

**Email:** ozlemnaz@hacettepe.edu.tr

**Web:** <https://avesis.hacettepe.edu.tr/ozlemnaz>

### International Researcher IDs

ORCID: 0000-0001-8170-762X

Publons / Web Of Science ResearcherID: G-6117-2013

ScopusID: 57190673756

Yoksis Researcher ID: 42992

### Education Information

Doctorate, Hacettepe University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği Bölümü, Turkey 2009 - 2015

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği Bölümü, Turkey 2007 - 2009

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği, Turkey 2003 - 2007

### Foreign Languages

German, B1 Intermediate

English, B2 Upper Intermediate

### Dissertations

Doctorate, PARTİKÜL FORMUNDA METAL OKSİT BAZLI MALZEMELERİN SENTEZİ VE KATALİTİK UYGULAMALARI , Hacettepe Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2015

Postgraduate, Soft Litografi Tekniği ile Array Platformlarının Oluşturulması, Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Kimya Mühendisliği (YI) (Tezli), 2009

### Research Areas

Chemical Engineering and Technology, Chemical Technologies, Polymer Technology, Process and Reactor Design, Catalysis and Catalytic Processes, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2022 - Continues

Assistant Professor, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2021 - Continues

Research Assistant, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2010 - 2021

### Courses

Temel Matematiksel Modelleme, Undergraduate, 2021 - 2022  
Kimya Mühendisliği Tasarımı II, Undergraduate, 2021 - 2022  
Polimer Bilimi ve Teknolojisi III, Undergraduate, 2021 - 2022  
Kimya Mühendisliği İlkeleri, Undergraduate, 2020 - 2021  
Chemical Engineering Design I, Undergraduate, 2021 - 2022  
Transport Teorisi, Undergraduate, 2021 - 2022  
Proses Enstrümantasyonu, Undergraduate, 2019 - 2020

## Advising Theses

Hamaloğlu K. Ö., Tuncel S. A., Metal nanopartikül formunda aktif merkeze sahip monodispers-gözenekli oksidasyon katalizörlerinin sentezi ve benzil alkol oksidasyonunda kullanımı, Postgraduate, S.ULU(Student), 2019

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

- I. **Synthesis of Silver Nanoparticle-Immobilized Antibacterial Anion-Exchange Membranes for Salinity Gradient Energy Production by Reverse Electrodialysis**  
Eti M., Cihanoğlu A., HAMALOĞLU K. Ö., Altok E., Güler E., Tuncel A., KABAY N.  
ACS Sustainable Chemistry and Engineering, vol.12, no.10, pp.3977-3986, 2024 (SCI-Expanded)
- II. **Porous, Oxygen Vacancy Enhanced CeO<sub>2-x</sub> Microspheres with Efficient Enzyme-Mimetic and Photothermal Properties**  
Akdogan C. Z. S., GÖKÇAL B., POLAT M., HAMALOĞLU K. Ö., Kip C., Tuncel A.  
ACS SUSTAINABLE CHEMISTRY & ENGINEERING, vol.10, pp.9492-9505, 2022 (SCI-Expanded)
- III. **Monodisperse-porous Mn<sub>508</sub> microspheres as an efficient catalyst for fast degradation of organic pollutants via peroxymonosulfate activation**  
Ozcan S., YILDIRIM D., ÇILDIRIĞLU H. Ö., POLAT M., HAMALOĞLU K. Ö., Tosun R. B., KİP F. Ç., Tuncel A.  
NEW JOURNAL OF CHEMISTRY, vol.46, no.30, pp.14605-14615, 2022 (SCI-Expanded)
- IV. **Bimetallic Pd-Au Nanoparticles Supported Monodisperse Porous Silica Microspheres as an Efficient Heterogenous Catalyst for Fast Oxidation of Benzyl Alcohol**  
Tosun R. B., HAMALOĞLU K. Ö., Tuncel A.  
CHEMISTRYSELECT, vol.7, no.28, 2022 (SCI-Expanded)
- V. **Highly Porous, Molecularly Imprinted Core-Shell Type Boronate Affinity Sorbent with a Large Surface Area for Enrichment and Detection of Sialic Acid Isomers**  
Kip C., Demir M. C., YILDIRIM D., HAMALOĞLU K. Ö., ÇELİKBIÇAK Ö., Tuncel A.  
JOURNAL OF INORGANIC AND ORGANOMETALLIC POLYMERS AND MATERIALS, vol.31, no.7, pp.2806-2817, 2021 (SCI-Expanded)
- VI. **Monodisperse-porous cerium oxide microspheres carrying iridium oxide nanoparticles as a heterogeneous catalyst for water oxidation**  
HAMALOĞLU K. Ö., Tosun R. B., Kayi H., AKKAŞ KAVAKLI P., KAVAKLI C., Tuncel A.  
APPLIED SURFACE SCIENCE, vol.547, 2021 (SCI-Expanded)
- VII. **Reusable water oxidation catalyst with dual active center for enhanced water oxidation: Iridium oxide nanoparticles immobilized on monodisperse-porous Mn<sub>508</sub> microspheres**  
Tosun R. B., HAMALOĞLU K. Ö., KAVAKLI C., AKKAŞ KAVAKLI P., Tuncel A.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.46, no.29, pp.15482-15496, 2021 (SCI-Expanded)
- VIII. **Recent trends in sorbents for bioaffinity chromatography**  
Kip C., HAMALOĞLU K. Ö., Demir C., Tuncel A.  
JOURNAL OF SEPARATION SCIENCE, vol.44, no.6, pp.1273-1291, 2021 (SCI-Expanded)
- IX. **Monodisperse-porous cerium oxide microspheres as a new support with appreciable catalytic activity for a composite catalyst in benzyl alcohol oxidation**

HAMALOĞLU K. Ö., Tosun R. B., Ulu S., Kayi H., KAVAKLI C., AKKAŞ KAVAKLI P., Kip C., Tuncel A.  
NEW JOURNAL OF CHEMISTRY, vol.45, no.4, pp.2019-2029, 2021 (SCI-Expanded)

- X. **A synergistic catalyst based on a multivalence monodisperse-porous microspheres with oxygen vacancies for benzyl alcohol oxidation**  
Tosun R. B., HAMALOĞLU K. Ö., AKKAŞ KAVAKLI P., KAVAKLI C., Tuncel A.  
MOLECULAR CATALYSIS, vol.497, 2020 (SCI-Expanded)
- XI. **Glutathione detection in human serum using gold nanoparticle decorated, monodisperse porous silica microspheres in the magnetic form**  
Gökçal B., Hamaloğlu K. Ö., Kip Ç., Güngör S., Büber E., Tuncel A.  
ANALYTICAL METHODS, vol.12, no.43, pp.5219-5228, 2020 (SCI-Expanded)
- XII. **Nucleoside Isolation Performance of Ti<sup>4+</sup>/Zr<sup>4+</sup> Immobilized Polydopamine Coated, Monodisperse-Porous Titania Microbeads**  
HAMALOĞLU K. Ö.  
JOURNAL OF INORGANIC AND ORGANOMETALLIC POLYMERS AND MATERIALS, vol.30, no.8, pp.2863-2871, 2020 (SCI-Expanded)
- XIII. **Following hybridization on sensor/array platforms by using SPR, elipsometer and MALDI-MS**  
ÇELİKBIÇAK Ö., HAMALOĞLU K. Ö., SALİH B., Piskin E.  
NUCLEOSIDES NUCLEOTIDES & NUCLEIC ACIDS, vol.39, no.7, pp.1057-1072, 2020 (SCI-Expanded)
- XIV. **Performances of protein array platforms prepared by soft lithography and self-assembling monolayers-approach by using SPR, ellipsometry and MALDI-MS**  
HAMALOĞLU K. Ö., ÇELİKBIÇAK Ö., SALİH B., Piskin E.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1198, 2019 (SCI-Expanded)
- XV. **Magnetic-porous microspheres with synergistic catalytic activity of small-sized gold nanoparticles and titania matrix**  
HAMALOĞLU K. Ö., Sag E., Kip C., ŞENLİK E., Kaya B. S., Tuncel A.  
FRONTIERS OF CHEMICAL SCIENCE AND ENGINEERING, vol.13, no.3, pp.574-585, 2019 (SCI-Expanded)
- XVI. **Magnetic, monodisperse titania microspheres with bimodal pore size distribution by a new sol-gel templating method and their photocatalytic activity**  
HAMALOĞLU K. Ö., Sag E., Tuncel A.  
JOURNAL OF POROUS MATERIALS, vol.26, no.2, pp.419-432, 2019 (SCI-Expanded)
- XVII. **Monodisperse-porous titania microspheres and their gold decorated forms as new photocatalysts for dye degradation in batch fashion**  
HAMALOĞLU K. Ö., Sag E., BILIR A., TUNCEL A.  
MATERIALS CHEMISTRY AND PHYSICS, vol.207, pp.359-366, 2018 (SCI-Expanded)
- XVIII. **Bare, gold and silver nanoparticle decorated, monodisperse-porous titania microbeads for photocatalytic dye degradation in a newly constructed microfluidic, photocatalytic packed-bed reactor**  
HAMALOĞLU K. Ö., Sag E., TUNCEL A.  
JOURNAL OF PHOTOCHEMISTRY AND PHOTOBIOLOGY A-CHEMISTRY, vol.332, pp.60-65, 2017 (SCI-Expanded)
- XIX. **A new method for the synthesis of monodisperse-porous titania microbeads by using polymethacrylate microbeads as template**  
HAMALOĞLU K. Ö., CELEBI B., SAG E., Tuncel A.  
MICROPOROUS AND MESOPOROUS MATERIALS, vol.207, pp.17-26, 2015 (SCI-Expanded)
- XX. **Cross-Linking Density and Temperature Effects on the Self-Assembly of SiO<sub>2</sub>-PNIPAAm Core-Shell Particles at Interfaces**  
Nazli K. Ö., PESTER C. W., KONRADI A., BOEKER A., VAN RIJN P.  
CHEMISTRY-A EUROPEAN JOURNAL, vol.19, no.18, pp.5586-5594, 2013 (SCI-Expanded)
- XXI. **Self-Assembly Process of Soft Ferritin-PNIPAAm Conjugate Bionanoparticles at Polar-Apolar Interfaces**  
VAN RIJN P., PARK H., Nazli K. O., MOUGIN N. C., BOEKER A.  
LANGMUIR, vol.29, no.1, pp.276-284, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Gold nanoparticle immobilized porous manganese oxide microspheres as heterogenous catalyst for benzyl alcohol oxidation**  
HAMALOĞLU K. Ö.  
Hacettepe Journal of Biology and Chemistry, vol.50, no.1, pp.85-92, 2022 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Bioaffinity-Based Nanozymes**  
KİP F. Ç., HAMALOĞLU K. Ö., TUNCEL S. A.  
in: Nanozymes : Advances and Applications, Sundaram Gunasekaran, Editor, CRC Press, Boca Raton, pp.97-113, 2021

## Refereed Congress / Symposium Publications in Proceedings

- I. **Ion exchange membranes with enhanced antifouling properties to produce energy from renewable sources**  
GÜLER E., Eti M., Cihanoğlu A., Altıok E., HAMALOĞLU K. Ö., Gökçal B., TUNCEL S. A., KABAY N.  
Proceedings of the 6th International Symposium on Green and Smart Technologies for a Sustainable Society, 9 - 10 December 2021
- II. **Antibacterial Behaviour of Novel Anion Exchange Membranes Synthesized for Reverse Electrodialysis**  
Eti M., Cihanoğlu A., HAMALOĞLU K. Ö., Gökçal B., GÜLER E., TUNCEL S. A., KABAY N.  
16th International Conference Student Conference on Advanced Science and Technology, ICAST 2021, 2 - 03 December 2021
- III. **Synthesis and characterization of composite antibiofouling anion exchange membranes for reverse electro dialysis applications**  
Eti M., Gökçal B., HAMALOĞLU K. Ö., Cihanoğlu A., GÜLER E., TUNCEL S. A., KABAY N.  
V. International Ege Composite Materials Symposium, KOMPEGE 2021, 4 - 06 November 2021
- IV. **Colorimetric Method for insulin detection using a new magnetic nanozyme**  
Gökçal B., HAMALOĞLU K. Ö.  
7th International Conference on New Trends in Chemistry, 25 - 26 September 2021
- V. **Kirlenmeye Dirençli Membranlar: Gümüş Nanopartikül İmmobilize Edilmiş Poliepioklorhidrin Esaslı Anyon Değiştirici Membranların Sentezi**  
Hamaloğlu K. Ö., Gökçal B., Tuncel S. A., Kabay N.  
UKMK 2020, 14. Ulusal Kimya Mühendisliği Kongresi, Konya, Turkey, 10 July 2021, pp.1
- VI. **Heterojen Oksidasyon Katalizörleri: İridyum Oksit Ve Palladyum Nanopartikülleri İle İmmobilize Edilmiş Seryum Dioksit Mikroküreler**  
HAMALOĞLU K. Ö., TUNCEL S. A.  
UKMK 2020, 14. Ulusal Kimya Mühendisliği Kongresi, Turkey, 10 - 12 June 2021
- VII. **Iridium oxide immobilized on cerium oxide for enhanced water oxidation**  
HAMALOĞLU K. Ö., Babacan Tosun R., TUNCEL S. A.  
6th International Conference on New Trends in Chemistry, 16 - 18 October 2020
- VIII. **Monodisperse-porous metal oxide microspheres with peroxidase/oxidase mimetic activity as a new tool for biomolecule determination**  
Gökçal B., ÖĞÜT S. E., Babacan R., KİP F. Ç., HAMALOĞLU K. Ö., TUNCEL S. A.  
XXVII.Balkan Clinical Laboratory Federation Meeting and XXX.National Congress of the Turkish Biochemical Society TBS 2019, 27 - 31 October 2019

- IX. Magnetic and non-magnetic porous microspheres decorated with noble metal nanoparticles for diverse catalytic applications**  
Hamaloğlu K. Ö., Tuncel S. A.  
5th Anatolian School of Catalysis, İzmir, Turkey, 8 - 11 September 2019, pp.1
- X. FENOLİK BİLEŞİKLERİN KATALİTİK YÖNTEMLE İNDİRGENMESİNDE KULLANILACAK HİDROJEL DESTEKLİ PLAZMONİK KATALİZÖR TASARIMI**  
Erdem G., HAMALOĞLU K. Ö., TUNCEL S. A., YAVUZ ERSAN H.  
12. Ulusal Kimya Mühendisliği Kongresi, Turkey, 23 - 26 August 2016
- XI. A new method for the synthesis of monodisperse porous titania microbeads by using polymethacrylate microbeads as template**  
HAMALOĞLU K. Ö., ÇELEBİ B., SAĞ E., TUNCEL S. A.  
4th International Symposium on Energy Challenges and Mechanics (ECM4)- working on small scales, 11 - 13 August 2015
- XII. Synthesis and Characterization of Monosized-Porous Titania Beads**  
Hamaloğlu K. Ö., Kip F. Ç., Tuncel S. A.  
41st International Symposium on High Performance Liquid Phase Separations and Related Techniques, North Carolina, United States Of America, 11 - 14 May 2014, pp.1
- XIII. Ellipsometry Based Sensor Surfaces For Oligonucleotide and Oligopeptide Probes**  
Hamaloğlu K. Ö.  
BIOMED 2010, İstanbul, Turkey, 28 September - 03 October 2010, pp.129
- XIV. Kinetic Modelling of Self-Assembled Monolayer Formation on Au-Nanoparticles and Au-Film**  
Hamaloğlu K. Ö.  
BIOMED 2008, Muğla, Turkey, 3 - 07 May 2008, pp.46
- XV. Formation and Organization of Amino Terminated Self-Assembled Layers on Si Surface**  
Hamaloğlu K. Ö.  
Synthesis and Applications of Self-Assembling Materials at Nano-scale, 5th Marie Curie Cutting Edge InVENTS Conference, Funchal, Portugal, 7 - 10 April 2008, pp.1
- XVI. Polypropylene/Clay Lamellar Blends and Their Nanocomposite Films**  
HAMALOĞLU K. Ö., RZAYEV Z., ALPER E.  
NanoTR3, Nanobilim ve Nanoteknoloji Konferansı, 11 - 14 June 2007

## Supported Projects

KİP F. Ç., HAMALOĞLU K. Ö., GÜNAN YÜCEL H., TUNCEL S. A., AKSU Z., SAĞ AÇIKEL Y., AYDOĞAN N., ÇELİK AKDUR E., ÖNEL S., YÜKSEL ORHAN Ö., et al., Project Supported by Higher Education Institutions, Biyoteknoloji Biyomedikal ve Enerji Uygulamaları için İleri ve Fonksiyonel Malzemelerin Geliştirilmesi, 2022 - 2024  
Hamaloğlu K. Ö., Güler E., Kip F. Ç., Kabay N., TUBITAK Project, Ters Elektrodiyale ile Tuzluluk Gradyan Enerjisinden Elektrik Enerjisi Üretiminde TekDeğerlikli İyon Seçimli Polimer/MOF Esaslı İyon Değiştirici Membranların Geliştirilmesi, 2022 - 2024  
Hamaloğlu K. Ö., Güler E., Kabay N., Tuncel S. A., TUBITAK Project, Üstün Fonksiyonellik: Membran Bazlı Süreçlerde Kompozit/Karışık Matris Yapıda Gözenekli Malzemeler, 2019 - 2022  
HAMALOĞLU K. Ö., TUNCEL S. A., KİP F. Ç., Ulu S., Babacan Tosun R., Project Supported by Higher Education Institutions, İridyum veya Rutenyum Aktif Merkez İçeren Gözenekli Oksidasyon Katalizörlerinin Sentezi ve Sentezlenen Katalizörlerin Su Oksidasyonunda Kullanılabilirliğinin İncelenmesi, 2018 - 2020  
HAMALOĞLU K. Ö., TUNCEL S. A., SAĞ E., Project Supported by Higher Education Institutions, Ti+4 İLE TÜREVLENDİRİLMİŞ POLİDOPAMİN KAPLI TİTANYUM DİOKSİT MİKROKÜRELERİN NÜKLEOSİT İZOLASYON PERFORMANSLARININ İNCELENMESİ, 2016 - 2017  
HAMALOĞLU K. Ö., TUNCEL S. A., Project Supported by Higher Education Institutions, Polimetakrilat mikropartiküllerin kalıp olarak kullanılması ile eş boyutlugözenekli titanyum dioksit mikropartiküllerin sentezi için yeni bir yöntem, 2015 - 2015

## Scientific Refereeing

COLLOID AND POLYMER SCIENCE, Journal Indexed in SCI-E, July 2021  
MATERIALS CHEMISTRY AND PHYSICS, Journal Indexed in SCI-E, September 2020  
METHODS, Journal Indexed in SCI-E, April 2020  
ANALYTICAL LETTERS, Journal Indexed in SCI-E, December 2019  
ANALYTICAL LETTERS, Journal Indexed in SCI-E, April 2019  
MATERIALS CHEMISTRY AND PHYSICS, Journal Indexed in SCI-E, September 2018

## Metrics

Publication: 39  
Citation (WoS): 95  
Citation (Scopus): 111  
H-Index (WoS): 5  
H-Index (Scopus): 6

## Congress and Symposium Activities

Proceedings of the 6th International Symposium on Green and Smart Technologies for a Sustainable Society, Attendee, Cantabria, Spain, 2021  
16th International Conference Student Conference on Advanced Science and Technology, Attendee, Kumamoto, Japan, 2021  
V. International Ege Composite Materials Symposium 2021, Attendee, İzmir, Turkey, 2021  
7th International Conference on New Trends in Chemistry, Attendee, Ankara, Turkey, 2021  
6th International Conference on New Trends in Chemistry, Attendee, İstanbul, Turkey, 2020  
27. Balkan Clinical Laboratory Federation Meeting (BCFL 2019) and 30. National Congress of the Turkish Biochemical Society, Attendee, Antalya, Turkey, 2019  
4th International Symposium on Energy Challenges & Mechanics- working on small scales, Attendee, Aberdeen, England, 2015  
41st International Symposium on High Performance Liquid Phase Separations and Related Techniques, Attendee, North Carolina, United States Of America, 2014  
5th Marie Curie Cutting Edge InVENTS Conference, Attendee, Funchal, Portugal, 2008  
3rd Nanoscience and Nanotechnology Conference, Attendee, Ankara, Turkey, 2007

## Scholarships

Tübitak Yüksek Lisans ve Doktora Başarı Bursu, TÜBİTAK, 2007 - 2015