

## Prof. EMREN NALBANT

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAF-3477-2022

ScopusID: 6506168620

Yoksis Researcher ID: 113013

### Education Information

Doctorate, University of Maryland, Kimya, United States Of America 2001 - 2006

Postgraduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Kimya (YI) (Tezli), Turkey 1999 - 2001

Undergraduate, Middle East Technical University, Faculty of Education, Matematik Ve Fen Bilimleri Eđitimi Bólümü, Turkey 1992 - 1998

### Foreign Languages

English, C1 Advanced

### Research Areas

Natural Sciences

### Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2009 - Continues

### Advising Theses

NALBANT E., Synthesis, characterization and catalytic investigation of iron based nano-catalysts for water oxidation reaction, Postgraduate, S.KOCABAŞ(Student), 2022

NALBANT E., Synthesis of cobalt based metal oxide nanoparticles and investigation of their potential use as catalysts in water oxidation reaction, Postgraduate, İ.AKSOY(Student), 2022

NALBANT ESENTÜRK E., TiN(IV) oxide coated gold nanoparticles: Synthesis, characterization and investigation of surface enhanced Raman scattering activities, Postgraduate, A.ELÇİ(Student), 2017

NALBANT ESENTÜRK E., Carbon dioxide capture by copper oxide nanoparticles decorated supports, Postgraduate, C.BÖRÜBAN(Student), 2016

NALBANT ESENTÜRK E., Synthesis, spectroscopic and computational analysis of nickel integrated germanium clusters, Postgraduate, S.ESRA(Student), 2014

NALBANT ESENTÜRK E., SON Ç. D., Design and characterization of 5-L autoclavable batch-culture bioreactor, Postgraduate, Ş.ÜNSAL(Student), 2014

SON Ç. D., NALBANT ESENTÜRK E., Design and characterization of 5-l autoclavable batch-culture bioreactor /, Postgraduate, Ş.Ünsal(Student), 2014

ÜNALAN H. E., NALBANT ESENTÜRK E., Growth and characterization of branched gold nanoparticles on surfaces, Postgraduate, N.İLKEM(Student), 2014

AYDINOL M. K., NALBANT ESENTÜRK E., Production and characterization of nano silver oxide for silver zinc batteries, Postgraduate, Ö.ÖYKÜM(Student), 2013

NALBANT ESENTÜRK E., Synthesis, functionalization and characterization of gold nanoparticles, Postgraduate, Z.SHOLANBAYEVA(Student), 2012

ÜNALAN H. E., NALBANT ESENTÜRK E., Synthesis of gold nanowires with high aspect ratio and morphological purity, Postgraduate, E.DERTLİ(Student), 2012

TURAN R., NALBANT ESENTÜRK E., Power conversion efficiency enhancement of organic solar cells by addition of gold nanoparticles, Postgraduate, D.KOZANOĞLU(Student), 2012

## Designed Lessons

Nalbant Esentürk E., Nanochemistry, Postgraduate, 2014 - 2015

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

- I. **Fabrication of Highly Catalytically Active Gold Nanostructures on Filter-Paper and Their Applications towards Degradation of Environmental Pollutants**  
Khan G. A., NALBANT ESENTÜRK E., BEK A., Bhatti A. S., Ahmed W.  
CHEMISTRYSELECT, vol.6, no.39, pp.10655-10660, 2021 (SCI-Expanded)
- II. **Electrochemical catechol biosensor based on beta-cyclodextrin capped gold nanoparticles and inhibition effect of ibuprofen**  
Kapan B., Kurbanoglu S., Esenturk E., Soylemez S., TOPPARE L. K.  
PROCESS BIOCHEMISTRY, vol.108, pp.80-89, 2021 (SCI-Expanded)
- III. **Hierarchical microspheres of Co(2)CrO(4)nanoplates for electrocatalytic water oxidation**  
Aksoy I., ÇETİN A., NALBANT ESENTÜRK E.  
JOURNAL OF NANOPARTICLE RESEARCH, vol.22, no.6, 2020 (SCI-Expanded)
- IV. **Nanowires assembled from iron manganite nanoparticles: Synthesis, characterization, and investigation of electrocatalytic properties for water oxidation reaction**  
Çetin A., Önal A. M., Esenturk E.  
Journal of Materials Research, vol.34, pp.3231-3239, 2019 (SCI-Expanded)
- V. **Chromium substituted iron oxide nanowires as affordable electrocatalysts for oxygen evolution reaction**  
Kocabas S., Çetin A., Önal A. M., Esenturk E.  
JOURNAL OF NANOPARTICLE RESEARCH, vol.21, 2019 (SCI-Expanded)
- VI. **Optical and vibrational properties of nickel integrated germanium Zintl ion clusters**  
Ogun E., Esentürk O., Nalbant Esentürk E.  
INORGANICA CHIMICA ACTA, vol.490, pp.16-23, 2019 (SCI-Expanded)
- VII. **Magnesium substituted cobalt spinel nanostructures for electrocatalytic water oxidation**  
Ekebas E., Çetin A., Önal A. M., Nalbant Esentürk E.  
JOURNAL OF APPLIED ELECTROCHEMISTRY, vol.49, pp.315-325, 2019 (SCI-Expanded)
- VIII. **Synthesis of tin oxide-coated gold nanostars and evaluation of their surface-enhanced Raman**

**scattering activities**

Elci A., Demirtas O., Öztürk İ. M., Bek A., Esenturk E.

JOURNAL OF MATERIALS SCIENCE, vol.53, pp.16345-16356, 2018 (SCI-Expanded)

- IX. **Activated carbon-supported CuO nanoparticles: a hybrid material for carbon dioxide adsorption**  
Boruban C., Nalbant Esentürk E.  
JOURNAL OF NANOPARTICLE RESEARCH, vol.20, 2018 (SCI-Expanded)
- X. **Synthesis of CuO nanostructures on zeolite-Y and investigation of their CO<sub>2</sub> adsorption properties**  
Boruban C., Nalbant Esentürk E.  
JOURNAL OF MATERIALS RESEARCH, vol.32, pp.3669-3678, 2017 (SCI-Expanded)
- XI. **Optical and Vibrational Properties of [Pt@Pb-12](2-), [Ni@Pb-12](2-), and [Ni@Pb-10](2-) Zintl Ion Clusters**  
Çetin A., Esentürk O., Esenturk E.  
EUROPEAN JOURNAL OF INORGANIC CHEMISTRY, pp.2413-2421, 2017 (SCI-Expanded)
- XII. **Growth of branched gold nanoparticles on solid surfaces and their use as surface-enhanced Raman scattering substrates**  
Nalbant Esentürk E., Coskun S., Kozanoglu D., Ertas G., Ünal H. E., Nalbant Esentürk E.  
RSC ADVANCES, vol.5, pp.101656-101663, 2015 (SCI-Expanded)
- XIII. **A functional immobilization matrix based on a conducting polymer and functionalized gold nanoparticles: Synthesis and its application as an amperometric glucose biosensor**  
Kesik M., Kanik F. E., Hizalan G., Kozanoglu D., Nalbant Esentürk E., Timur S., Toppare L. K.  
POLYMER, vol.54, pp.4463-4471, 2013 (SCI-Expanded)
- XIV. **Power conversion efficiency enhancement of organic solar cells by addition of gold nanostars, nanorods, and nanospheres**  
Kozanoglu D., Apaydin D. H., Çırpan A., Esenturk E.  
ORGANIC ELECTRONICS, vol.14, pp.1720-1727, 2013 (SCI-Expanded)
- XV. **Gold nanostar @ iron oxide core-shell nanostructures: synthesis, characterization, and demonstrated surface-enhanced Raman scattering properties**  
Nalbant Esentürk E., Walker A. R. H.  
JOURNAL OF NANOPARTICLE RESEARCH, vol.15, 2013 (SCI-Expanded)
- XVI. **Gold nanowires with high aspect ratio and morphological purity: Synthesis, characterization, and evaluation of parameters**  
Dertli E., Coskun S., Nalbant Esentürk E.  
JOURNAL OF MATERIALS RESEARCH, vol.28, pp.250-260, 2013 (SCI-Expanded)
- XVII. **Surface-enhanced Raman scattering spectroscopy via gold nanostars**  
Esenturk E., Walker A. R. H.  
JOURNAL OF RAMAN SPECTROSCOPY, vol.40, no.1, pp.86-91, 2009 (SCI-Expanded)
- XVIII. **The Pb-12(2-) and Pb-10(2-) zintl ions and the M@Pb-12(2-) and M@Pb-10(2-) cluster series where M = Ni, Pd, Pt**  
Esenturk E., Fettinger J., Eichhorn B.  
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol.128, no.28, pp.9178-9186, 2006 (SCI-Expanded)
- XIX. **Synthesis and characterization of the [Ni<sub>6</sub>Ge<sub>13</sub>(CO)<sub>5</sub>](4-) and [Ge<sub>9</sub>Ni<sub>2</sub>(PPh<sub>3</sub>)](2-) Zintl ion clusters**  
Esenturk E., Fettinger J., Eichhorn B.  
POLYHEDRON, vol.25, no.2, pp.521-529, 2006 (SCI-Expanded)
- XX. **Synthesis, structure, and dynamic properties of [Ni<sub>2</sub>Sn<sub>17</sub>](4-)**  
Esenturk E., Fettinger J., Eichhorn B.  
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol.128, no.1, pp.12-13, 2006 (SCI-Expanded)
- XXI. **The closo-Pb-10(2-) Zintl ion in the [Ni@Pb-10](2-) cluster**  
Esenturk E., Fettinger J., Eichhorn B.  
CHEMICAL COMMUNICATIONS, no.2, pp.247-249, 2005 (SCI-Expanded)
- XXII. **[Pt@Pb-12](2-)**

Esenturk E., Fettinger J., Lam Y., Eichhorn B.

ANGEWANDTE CHEMIE-INTERNATIONAL EDITION, vol.43, no.16, pp.2132-2134, 2004 (SCI-Expanded)

XXIII. **Spectroelectrochemical investigation of pentacarbonyl(pyrazine)metal(0) (metal = Cr, Mo, W) complexes of group 6 elements**

Yaman S., Esenturk E., Kayran C., Onal A.

ZEITSCHRIFT FUR NATURFORSCHUNG SECTION B-A JOURNAL OF CHEMICAL SCIENCES, vol.57, no.1, pp.92-98, 2002 (SCI-Expanded)

## Refereed Congress / Symposium Publications in Proceedings

I. **Synthesis and characterization of Fe-Mn oxide nanowires and their catalytic activities towards oxygen evolution reaction**

ÇETİN A., Onal A., NALBANT ESENTÜRK E.

257th National Meeting of the American-Chemical-Society (ACS), Florida, United States Of America, 31 March - 04 April 2019, vol.257

## Supported Projects

NALBANT E., KARAMAN S., Project Supported by Higher Education Institutions, BAKIR DEMİR OKSİT VE SPİNEL NANOPARÇACIKLARININ SENTEZİ, KARAKTERİZASYONU VE KATALİTİK ETKİNLİKLERİNİN İNCELENMESİ, 2018 - 2020

NALBANT E., ÇETİN A., Project Supported by Higher Education Institutions, SPİNEL YAPIDAKİ BAKIR KROM OKSİT NANOPARÇACIKLARININ SENTESİ, KARAKTERİZASYONU VE KATALİTİK ETKİNLİKLERİNİN İNCELENMESİ, 2018 - 2019

YILMAZ A., AKMAN P., GÖKAĞAÇ ARSLAN G., ÇORUH N., NALBANT ESENTÜRK E., KAYRAN İŞÇİ C., PERSİL ÇETİNKOL Ö., Project Supported by Higher Education Institutions, Lüminesan MCM-41 Mezogözenekli Silika Nanoparçacıklarına Selekoksib Yükleme Çalışmaları: İlaç Yükleme ve Bırakma Özellikleri, 2018 - 2019

NALBANT E., Project Supported by Higher Education Institutions, Fonksiyonel Özellikleri Güçlendirilmiş Soymetal Nano Parçacıklarının Sentezi Ve Uygulama Alanlarının İncelenmesi Isıl Karakterizasyonu, 2011 - 2019

NALBANT E., Project Supported by Higher Education Institutions, YÜZEY ÜZERİNE KAPLANMIŞ FARKLI UZUNLUKLARDAKİ ALTIN NANOÇUBUKLARIN OPTİK ÖZELLİKLERİNİN VE GÜNEŞ GÖZELERİNDEKİ POTANSİYEL UYGULAMALARININ İNCELENMESİ, 2017 - 2017

NALBANT E., Project Supported by Higher Education Institutions, KOBALT OKSİT NANOPARÇACIKLARININ SENTEZİ, KARAKTERİZASYONU VE KATALİTİK ETKİNLİKLERİNİN İNCELENMESİ, 2017 - 2017

GÖKAĞAÇ ARSLAN G., YILMAZ A., ÇORUH N., NALBANT ESENTÜRK E., KAYRAN İŞÇİ C., PERSİL ÇETİNKOL Ö., Project Supported by Higher Education Institutions, Değişik destek maddeleri kullanılarak yeni katalizörlerin hazırlanması, 2017 - 2017

ÖZKAR S., GÖKAĞAÇ ARSLAN G., AKBAYRAK S., YILMAZ A., NALBANT ESENTÜRK E., KAYRAN İŞÇİ C., Project Supported by Higher Education Institutions, Serya destekli rutenyum nanoküpleri: Sentezi, tanımlanması ve amonyak boranın hdirolizinden hidrojen üretiminde katalitik etkinliğinin incelenmesi, 2016 - 2016

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

ÖZKAR S., GÖKAĞAÇ ARSLAN G., YILMAZ A., NALBANT ESENTÜRK E., KAYRAN İŞÇİ C., Project Supported by Higher Education Institutions, Hidrojen Üretiminde Formik Asidin Dehidrojenlenmesini Katalizleyecek Metal Nanoküplerinin Hazırlanması, Tanımlanması ve Katalitik Performanslarının İncelenmesi, 2015 - 2015

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2015

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2015

NALBANT ESENTÜRK E., TUBITAK Project, Ana Grup Kümelerinden Nanomalzemelere Sentez Karakterizasyon Birleştirme, 2012 - 2015

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014

YILMAZ A., GÖKAĞAÇ ARSLAN G., NALBANT ESENTÜRK E., KAYRAN İŞÇİ C., Project Supported by Higher Education Institutions, Biyomedikal Amaçla Kullanılabilecek Anorganik Nanoparçacıkların Yüzey Aktifleme Çalışmaları ve Bunların Fizikokimyasal Karakterizasyonları, 2014 - 2014

NALBANT E., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014

NALBANT E., ÖĞÜN S. E., Project Supported by Higher Education Institutions, GEÇİŞ METALLERİ AŞILANMIŞ GERMANYUM KÜMELERİNİN SENTEZİ VE KARAKTERİZASYONU, 2013 - 2013

NALBANT E., ÇETİN A., Project Supported by Higher Education Institutions, GEÇİŞ METALLERİ AŞILANMIŞ KALAY KÜMELERİNİN SENTEZİ VE KARAKTERİZASYONU, 2013 - 2013

NALBANT E., ARCA B. Ç., Project Supported by Higher Education Institutions, YÜKSEK EN BOY ORANINDAKİ ALTIN NANOTELLERİN SENTEZİ, KARAKTERİZASYONU VE POTANSİYEL UYGULAMALARININ İNCELENMESİ, 2013 - 2013

NALBANT E., Project Supported by Higher Education Institutions, ALTIN ÇEKİRDEK, GÜMÜŞ KABUK BİMETALİK NANOPARÇACIKLARIN SENTEZİ VE KARAKTERİZASYONU, 2013 - 2013

NALBANT E., Project Supported by Higher Education Institutions, Altın (au), Gümüş (ag) Nanoparçacıklarının Sentezi Ve Karakterizasyonu, 2010 - 2010

## Scientific Refereeing

RSC ADVANCES, Journal Indexed in SCI-E, June 2015  
RSC ADVANCES, Journal Indexed in SCI-E, March 2015

## Metrics

Publication: 28  
Citation (WoS): 1086  
Citation (Scopus): 960  
H-Index (WoS): 12  
H-Index (Scopus): 11

## Scholarships

Howard Hughes Medical Institute Fellowship, Other International Organizations, 2004 - 2006

## Awards

Nalbant Esentürk E., Prof. Dr. Mustafa Parlar Eğitim ve Araştırma Vakfı Yılın Eğitimcisi Ödülü, Prof. Dr. Mustafa Parlar

Eđitim Ve Arařtırma Vakfı, December 2016

## **Non Academic Experience**

National Institute of Standards and Technology, ABD