

ASLIHAN SÜMER

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Öğrenim Bilgisi

Post-Doktora 2014 - 2015	University of Illinois at Urbana-Champaign / Applied Research Institute (https://appliedresearch.illinois.edu/) (2015)
Post-Doktora 2013 - 2014	Washington State University / Applied Sciences Laboratory (https://asl.wsu.edu/) (2014)
Post-Doktora 2010 - 2013	University of Chicago / Argonne National Laboratory Chemical Sciences and Technologies (https://www.anl.gov/cse)
Doktora 2004 - 2010	BOĞAZİÇİ ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ/ KİMYA MÜHENDİSLİĞİ (DR) Tez Adı : A theoretical study on catalytic steps of hydrogen production and purification (2010) Tez Danışmanı : (AHMET ERHAN AKSOYLU)
Yüksek Lisans 2002 - 2004	BOĞAZİÇİ ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ/ KİMYA MÜHENDİSLİĞİ (YL) (TEZLİ) Tez Adı : An investigation on the properties of Pt-based surface alloys via computational QM methods (2006) Tez Danışmanı : (AHMET ERHAN AKSOYLU)
Lisans 1995 - 2001	BOĞAZİÇİ ÜNİVERSİTESİ MÜHENDİSLİK FAKÜLTESİ/ KİMYA MÜHENDİSLİĞİ BÖLÜMÜ/ KİMYA MÜHENDİSLİĞİ PR. (İNGİLİZCE)

Görevler

DOÇENT 2022	SAĞLIK BİLİMLERİ ÜNİVERSİTESİ / HAMİDİYE ECZACILIK FAKÜLTESİ / TEMEL ECZACILIK BİLİMLERİ BÖLÜMÜ / ANALİTİK KİMYA ANABİLİM DALI
DOKTOR ÖĞRETİM ÜYESİ 2019 - 2022	SAĞLIK BİLİMLERİ ÜNİVERSİTESİ / HAMİDİYE ECZACILIK FAKÜLTESİ / TEMEL ECZACILIK BİLİMLERİ BÖLÜMÜ / ANALİTİK KİMYA ANABİLİM DALI
ARAŞTIRMA GÖREVLİSİ 2004 - 2010	BOĞAZİÇİ ÜNİVERSİTESİ / REKTÖRLÜK

Projelerde Yaptığı Görevler

- 1 . In silico molibden oksit nano-parcacık dizaynı ve geniş spektrumlu antimikrobiyal yüzey kaplama malzemesi olarak geliştirilmesi, Diğer (Ulusal), Yürütücü, 30/03/2020 - 01/01/2021, (ULUSAL)
- 2 . Kozmetik Aktif Ürünlerinin Genomik ve Proteomik Düzeyde Etkinlik Test Platformlarının Geliştirilmesi, TÜBİTAK PROJESİ, Araştırmacı, 01/02/2020 - 31/07/2021, (ULUSAL)
- 3 . KOZMETİK AKTİF&ÜRÜNLERİNİN GENOMİK VE PROTEOMİK DÜZEYDE ETKİNLİK TEST PLATFORMLARININ GELİŞTİRİLMESİ, TÜBİTAK PROJESİ, Araştırmacı, 20/01/2020 - 10/12/2021, (ULUSAL)
- 4 . Institute for Atom-efficient Chemical Transformations (IACT), an Energy Frontier Research Center, Diğer (Uluslararası), Araştırmacı, 01/01/2009 - 01/01/2014, (ULUSLARARASI)

İdari Görevler

Ödüller

- 1 . Patent Başvuru Ödülü , University of Chicago Argonne National Laboratory , AMERİKA BİRLEŞİK DEVLETLERİ , 2013
- 2 . Argonne Annual Art of Science Contest , University of Chicago Argonne National Laboratory , AMERİKA BİRLEŞİK DEVLETLERİ , 2011

Dersler *

Öğrenim Dili Ders Saati

2021-2022

Lisans

Organik Kimya II	İngilizce	2
Analitik Kimya I Laboratuvarı	Türkçe	3
Analitik Kimya I	İngilizce	2
Genel Kimya	İngilizce	4
Bitirme Projesi II	Türkçe	2
Bitirme Projesi I	Türkçe	2
Analitik Kimya II Laboratuvarı	Türkçe	3
Analitik Kimya II	Türkçe	2
Genel Kimya	Türkçe	4

2020-2021

Lisans

GENEL KİMYA	İngilizce	4
ORGANİK KİMYA II	İngilizce	2
ANALİTİK KİMYA I LABORATUVARI	İngilizce	3
ANALİTİK KİMYA I	İngilizce	2
ANALİTİK KİMYA II LABORATUVARI	Türkçe	3
ANALİTİK KİMYA II	Türkçe	2
ORGANİK KİMYA I	İngilizce	2

2019-2020

Lisans

ORGANİK KİMYA I	İngilizce	2
ANALİTİK KİMYA II	Türkçe	2
ANALİTİK KİMYA II LABORATUVARI	Türkçe	3
GENEL KİMYA	İngilizce	4
ANALİTİK KİMYA I LABORATUVARI	İngilizce	3
ANALİTİK KİMYA I	İngilizce	2

Patentler

- 1 . Surface modification of catalytic surface by organic molecules and metal cations (<https://patents.google.com/patent/US20140357910A1/en>) for selective catalysis (2014), Patent No:US20140357910A1 Patent Başvuru Sahipleri : Elena Shevchenko, Soongu Kwon, Emilio Bunel, Galyna Krylova, Julius Jellinek, Aslihan Sumer, Christopher L. Marshall, Patent Buluş Sahipleri : Christopher L. Marshall, Aslihan Sumer, Julius Jellinek, Galyna Krylova, Emilio Bunel, Soongu Kwon, Elena Shevchenko

Eserler

Uluslararası hakemli dergilerde yayımlanan makaleler:

- 1 . KATI AHMET, ASLAN İSMAİL, SÜMER ASLIHAN (2023). Tuning electronic structure and chemical reactivity via oxidation state in molybdenum oxide. Computational and Theoretical Chemistry, 1225(), 114172-. , Doi: 10.1016/j.comptc.2023.114172 (Yayın No : 8562780)
- 2 . SÜMER ASLIHAN, Jellinek Julius (2022). Computational studies of structural, energetic, and electronic properties of pure Pt and Mo and mixed Pt/Mo clusters: Comparative analysis of characteristics and trends. The Journal of Chemical Physics, 157(), Doi: 10.1063/5.0099760 (Yayın No : 7866216)
- 3 . SÜMER ASLIHAN (2021). Molybdenum Oxide Clusters: Structure, Stability, and Electronic Properties. The Journal of Physical Chemistry A, 125(23), 5201-5211. , Doi: 10.1021/acs.jpca.1c03052 (Yayın No : 7109927)
- 4 . SÜMER ASLIHAN, Chaudhuri Santanu (2017). A First Principles Investigation of Corrosion Chemistry of Common Elemental Impurities in Mg-Al Alloys. CORROSION, 73(5), 596-604. , Doi: 10.5006/2392 (Yayın No : 6463862)
- 5 . Zhang Wei, SÜMER ASLIHAN, Jellinek Julius, Cheng Daojian (2015). Morphology Tailoring of Pt Nanocatalysts for the Oxygen Reduction Reaction: The Paradigm of Pt-13. CHEMNANOMAT, 1(7), 482-488. , Doi: 10.1002/cnma.201500107 (Yayın No : 6463861)
- 6 . SÜMER ASLIHAN, Chaudhuri Santanu (2015). Opening gates to oxygen reduction reactions on Cu(111) surface. The Journal of Chemical Physics, 142(12), Doi: 10.1063/1.4914901 (Yayın No : 6463882)
- 7 . SÜMER ASLIHAN, Losada Martin, Chaudhuri Santanu (2014). Nanoscale Electrochemical Processes On Cu(111) Surface Using Periodic DFT and Quantum/Classical Simulations. ECS Transactions, 58(20), 1-7. , Doi: 10.1149/05820.0001ECST (Yayın No : 7066864)
- 8 . Dietrich Paul J., Wu Tianpin, SÜMER ASLIHAN, Dumesic James A., Jellinek Julius, Delgass W. Nicholas, Ribeiro Fabio H., Miller Jeffrey T. (2013). Aqueous Phase Glycerol Reforming with Pt and PtMo Bimetallic Nanoparticle Catalysts: The Role of the Mo Promoter. Topics in Catalysis, 56(), 1814-1828. , Doi: 10.1007/s11244-013-0115-1 (Yayın No : 6463827)
- 9 . SÜMER ASLIHAN, AKSOYLU AHMET ERHAN (2012). Effect of Platinum Incorporation on the Energetics and Oxygen Chemisorption Properties of the Ni(1 1 1) Surface. CHEMCATCHEM, 4(12), 2005-2012. , Doi: 10.1002/cctc.201200271 (Yayın No : 6542976)
- 10 . Kwon Soon Gu, SÜMER ASLIHAN, Krylova Galyna, Schwartz Michael M., Bunel Emilio E., Marshall Christopher L., Chattopadhyay Soma, Lee Byeongdu, Jellinek Julius, Shevchenko Elena V. (2012). Capping Ligands as Selectivity Switchers in Hydrogenation Reactions. NANO LETTERS, 12(10), 5382-5388. , Doi: 10.1021/nl3027636 (Yayın No : 6463774)
- 11 . Dietrich Paul J., Lobo-Lapidus Rodrigo J., Wu Tianpin, SÜMER ASLIHAN, Akatay M. Cem, Fingland Bradley R., Guo Neng, Dumesic James A., Marshall Christopher L., Stach Eric, Jellinek Julius, Delgass W. Nicholas, Ribeiro Fabio H., Miller Jeffrey T. (2012). Aqueous Phase Glycerol Reforming by PtMo Bimetallic Nano-Particle Catalyst: Product Selectivity and Structural Characterization. TOPICS IN CATALYSIS, 55(), 53-69. , Doi: 10.1007/s11244-012-9775-5 (Yayın No : 6463783)
- 12 . Peterka tom, Knoll aaron, Knoll aaron, Leigh jason, Jellinek Julius, Papka Michael, SÜMER ASLIHAN, McGinnis bradley, Talandis jonas (2012). A simultaneous 2D/3D autostereo workstation. Stereoscopic Displays and Applications XXIII Doi: 10.1117/12.908705 (Yayın No : 7232889)
- 13 . SÜMER ASLIHAN, Aksoylu A. Erhan (2009). Adsorption-Induced Surface Electronic Reconstruction of Pt and Pt-Sn Alloys during CO Adsorption. The Journal of Physical Chemistry C, 113(32), 14329-14334. , Doi: 10.1021/jp9021079 (Yayın No : 6463864)
- 14 . SÜMER ASLIHAN, Aksoylu A. Erhan (2008). CO and O coadsorption on Pt₃Sn studied by DFT: Changes in the adsorptives properties of the surface with alloying and coverage. SURFACE SCIENCE, 602(9), 1636-1642. , Doi: 10.1016/j.susc.2008.02.035 (Yayın No : 6463852)
- 15 . SÜMER ASLIHAN, Gulmen Mine A., Aksoylu A. Erhan (2006). A theoretical investigation on Pt₃Sn(102) surface alloy and CO/Pt₃Sn(102) system. Surface Science, 600(10), 2026-2039. , Doi: 10.1016/j.susc.2006.02.028 (Yayın No : 6463857)

Uluslararası hakemli dergilerde yayımlanan makaleler:

- 16 . Gulmen Mine A.,SÜMER ASLIHAN,Aksoylu A. Erhan (2006). Adsorption properties of CO on low-index Pt₃Sn surfaces. SURFACE SCIENCE, 600(21), 4909-4921. , Doi: 10.1016/j.susc.2006.08.012 (Yayın No : 6463850)

B. Uluslararası bilimsel toplantılarda sunulan ve bildiri kitaplarında (proceedings) basılan bildiriler

- 1 . SÜMER ASLIHAN (2021). Ab initio study of MomOn clusters and their interactions with carbon monoxide. ACS Spring 2021, (Özet bildiri) (Yayın No:7031002)
- 2 . SÜMER ASLIHAN (2020). Computational Design of Doped Metal Oxide Nanoparticles with Antimicrobial Activities. International Eurasian Conference on Biotechnology and Biochemistry (BioTechBioChem 2020), (Özet bildiri) (Yayın No:6912236)
- 3 . SÜMER ASLIHAN,Losada Martin,Chaudhuri Santanu (2013). Nanoscale Electrochemical Processes On Cu(111) Surface Using Periodic DFT\n and Quantum/Classical Simulations. 224th ECS meeting , 1-7, (Tam metin bildiri) (Yayın No:6464025)
- 4 . Santanu Chaudhuri,SÜMER ASLIHAN,Xiao Jie,Losada Martin (2013). Investigation of Localized Corrosion and the Role of Transport in\n Lightweight Alloys Using Microkinetic Models With First-Principles\n Link. 224th ECS meeting, (Tam metin bildiri) (Yayın No:6466250)
- 5 . Bunel Emilio,Marshall Christopher,Jellinek Julius,Shevchenko Elena,Kwon Soon,Galya Galya,SÜMER ASLIHAN,Schwartz Michael,Chattopadhyay Soma,Lee Byeongdu (2013). Controlling hydrogenation selectivity with nanoparticle based catalysts. 245th American Chemical Society National Meeting, (Özet bildiri) (Yayın No:6467153)
- 6 . Dietrich Paul,Sollberger Fred,Wu Tianpin,SÜMER ASLIHAN,Jellinek Julius,Delgass Nicholas,Miller Jeffrey T,Ribeiro Fabio (2012). An Integrated Approach for Characterization of Pt Based Aqueous Phase Reforming Catalysts. 2012 Annual AIChE meeting, (Özet bildiri) (Yayın No:6466615)
- 7 . Sollberger Fred,Dietrich Paul J,Sabnis Kaiwalya D,SÜMER ASLIHAN,Jellinek Julius,Akatay Cem,Delgass Nicholas,Ribeiro Fabio H,Miller Jeffrey T (2012). Activity Relationships Between Aqueous Phase Reforming and the Water Gas Shift Reaction. 2012 Annual AIChE meeting, (Tam metin bildiri) (Yayın No:6466552)
- 8 . Deitrich paul, Wu Tianpin, SÜMER ASLIHAN, Lobo-Lapidus rodrigo, Guo Neng, Fingland Bradley, Jellinek Julius, Ribeiro Fabio, Delgass Nicholas, Dumesic James, Miller jeff (2012). Kinetic and spectroscopic analysis of Pt based aqueous phase reforming catalysts . 244th National Fall Meeting of American Chemical Society (ACS), (Özet bildiri) (Yayın No:7236354)
- 9 . Jellinek Julius,SÜMER ASLIHAN (2011). DENSITY FUNCTIONAL THEORY STUDIES OF PURE AND MIXED Pt/Mo NANOCATALYSTS. ISACC 2011, (Özet bildiri) (Yayın No:6466449)
- 10 . SÜMER ASLIHAN,Jellinek Julius (2011). Computational Studies of Pure and Mo-Doped Pt Nanocatalysts: Effects of Size, Structure, and Composition. AIChE 2011 Spring Meeting, (Özet bildiri) (Yayın No:6541882)
- 11 . Jellinek Julius,SÜMER ASLIHAN (2010). Pt, Mo, and Pt/Mo CLUSTERS: STRUCTURAL, ELECTRONIC, AND CHEMICAL REACTIVITY PROPERTIES –EFFECTS OF SIZE AND COMPOSITION. DySoN Conference 2010, (Özet bildiri) (Yayın No:6466428)
- 12 . SÜMER ASLIHAN,Ercan Elif,AKSOYLU AHMET ERHAN (2009). Oxidation Properties of Pt-Ni Surface Alloys. 2009 AIChE Annual Meeting, (Özet bildiri) (Yayın No:6542117)
- 13 . Ercan Elif,SÜMER ASLIHAN,AKSOYLU AHMET ERHAN (2009). Oxygen Adsorption on Pt/Ni Overlayers with Density Functional Theory. EUROPACAT IX, (Özet bildiri) (Yayın No:6542151)
- 14 . SÜMER ASLIHAN,AKSOYLU AHMET ERHAN (2008). A Theoretical Study of CO and O Coadsorption on Pt-Sn Alloy. 14th International Conference on Catalysis, (Özet bildiri) (Yayın No:6542165)
- 15 . SÜMER ASLIHAN,AKSOYLU AHMET ERHAN (2008). Effects of Surface Concentration on the Rate of CO Oxidation Reaction: An ab-initio all Electron Relativistic Calculation. ICTAC-12 International Conference on Theoretical Aspects of Catalysis, (Özet bildiri) (Yayın No:6542174)
- 16 . SÜMER ASLIHAN,AKSOYLU AHMET ERHAN (2007). Ab-Initio All Electron Relativistic Calculations for CO-Pt₃Sn(111) System for Preferential Oxidation of CO. 2007 AIChE Annual Meeting, (Özet bildiri) (Yayın No:6542196)
- 17 . Gülmen Mine,SÜMER ASLIHAN,AKSOYLU AHMET ERHAN (2006). A Theoretical Investigation of CO Adsorption on Pt₃Sn Alloy. AIChE 2006 Annual Meeting, (Özet bildiri) (Yayın No:6542222)

D. Ulusal hakemli dergilerde yayımlanan makaleler

- 1 . SÜMER ASLIHAN (2020). Effects of composition on catalytic activities of molybdenum doped platinum nanoparticles. TURKISH JOURNAL OF CHEMISTRY, 44(4), 1016-1030. (Kontrol No : 6463917)

2017 - 2019	Ar-Ge Kıdemli arařtırmacı	Hayat Kimya Ar-Ge Merkezi , Ar-Ge merkezinde Kıdemli arařtırmacı olarak yeni malzemelerin ve ürün kalite analiz yöntemlerinin geliştirilmesi üzerinde çalıştım. , ()
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Sertifika

- 1 . Renewable Energy Certificate of Reviewing, Renewable Energy dergisi için makale hakemligi (sertifikalı), ABD, Sertifika, 20/08/2020-20/08/2020, (Uluslararası)