

## Assoc. Prof. Seden Beyhan

### Personal Information

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**Address:** İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Kimya Bölümü

### International Researcher IDs

ORCID: 0000-0002-0504-8607

Publons / Web Of Science ResearcherID: L-8935-2014

ScopusID: 22133602000

Yoksis Researcher ID: 152259

### Education Information

Doctorate, Université de Poitiers, Faculté De Sciences Fondamentales Et Appliquées, Institut De Chimie Des Milieux Et Matériaux De Poitiers (Ic2mp), France 2007 - 2010

Doctorate, Istanbul Technical University, Fen-Edebiyat Fakültesi, Kimya Bölümü, Turkey 2004 - 2010

Postgraduate, Istanbul Technical University, Fen-Edebiyat Fakültesi, Kimya Bölümü, Turkey 2001 - 2004

Undergraduate, Yıldız Technical University, Faculty Of Chemical And Metallurgical Engineering, Kimya Mühendisliği Bölümü, Turkey 1997 - 2001

### Foreign Languages

English

French, B2 Upper Intermediate

Bosnian, B2 Upper Intermediate

### Certificates, Courses and Trainings

Occupational Health and Safety, İş Sağlığı ve Güvenliği, İstanbul Teknik Üniversitesi, 2016

### Dissertations

Doctorate, Synthesis and characterization of nanoparticles for ethanol oxidation in direct ethanol fuel cell (DEFC), İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Kimya Bölümü, 2010

Doctorate, Synthesis and characterization of nanoparticles for ethanol oxidation in direct ethanol fuel cell (DEFC), Université De Poitiers, Faculté Des Sciences Fondamentales Et Appliquées, Chimie Théorique, Physique, Analytique, 2010

Postgraduate, CuInSe<sub>2</sub> ince film güneş pillerinin elektrokimyasal yöntemlerle hazırlanması, İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Kimya Bölümü, 2004

### Research Areas

Basic Sciences, Chemistry, Analytical Chemistry, Electromagnetic Methods, Physical Chemistry, Electrochemistry, Fuel

## Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Fen-Edebiyat, Kimya, 2016 - Continues

Research Assistant PhD, Istanbul Technical University, Fen-Edebiyat, Kimya, 2010 - Continues

Research Assistant PhD, Istanbul Technical University, Fen-Edebiyat, Kimya, 2002 - Continues

## Academic and Administrative Experience

Guest Researcher, Universidad de Alicante, University Institute Of Electrochemistry, Group Of Surface Electrochemistry, 2011 - 2011

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

- I. **Comparison of oxygen reduction reaction on Pt/C, Pt-Sn/C, Pt-Ni/C, and Pt-Sn-Ni/C catalysts prepared by Bonnemann method: A rotating ring disk electrode study**  
Beyhan S., SAHIN N. E., PRONIER S., LEGER J., KADIRGAN F.  
ELECTROCHIMICA ACTA, vol.151, pp.565-573, 2015 (SCI-Expanded)
- II. **In situ FTIR investigation of acetic acid electrooxidation on carbon supported Pt-Sn based trimetallic catalysts: Influence of the nature of the third metal**  
Beyhan S., LEGER J., KADIRGAN F.  
APPLIED SURFACE SCIENCE, vol.321, pp.426-431, 2014 (SCI-Expanded)
- III. **Electrocatalytic properties of Au h k l electrodes towards oxidation of ethanol in alkaline media**  
Beyhan S.  
International Journal of Electrochemical Science, vol.9, pp.3259-3268, 2014 (SCI-Expanded)
- IV. **The effect of Ni addition on the structure of Pt-Sn/C nanoparticles by electron microscopy**  
Beyhan S., PRONIER S.  
MATERIALS RESEARCH BULLETIN, vol.50, pp.246-248, 2014 (SCI-Expanded)
- V. **Understanding the influence of Ni, Co, Rh and Pd addition to PtSn/C catalyst for the oxidation of ethanol by in situ Fourier transform infrared spectroscopy**  
Beyhan S., LEGER J., KADIRGAN F.  
APPLIED CATALYSIS B-ENVIRONMENTAL, vol.144, pp.66-74, 2014 (SCI-Expanded)
- VI. **Adsorption and oxidation of acetaldehyde on carbon supported Pt, PtSn and PtSn-based trimetallic catalysts by in situ Fourier transform infrared spectroscopy**  
Beyhan S., LEGER J., KADIRGAN F.  
JOURNAL OF POWER SOURCES, vol.242, pp.503-509, 2013 (SCI-Expanded)
- VII. **Electrochemical and in situ FTIR studies of ethanol adsorption and oxidation on gold single crystal electrodes in alkaline**  
Beyhan S., UOSAKI K., FELIU J. M., HERRERO E.  
JOURNAL OF ELECTROANALYTICAL CHEMISTRY, vol.707, pp.89-94, 2013 (SCI-Expanded)
- VIII. **Promising anode candidates for direct ethanol fuel cell: Carbon supported PtSn-based trimetallic catalysts prepared by Bonnemann method**  
Beyhan S., COUTANCEAU C., LEGER J., NAPPORN T. W., KADIRGAN F.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.38, no.16, pp.6830-6841, 2013 (SCI-Expanded)
- IX. **Pronounced synergetic effect of the nano-sized PtSnNi/C catalyst for ethanol oxidation in direct ethanol fuel cell**  
Beyhan S., LEGER J., KADIRGAN F.

APPLIED CATALYSIS B-ENVIRONMENTAL, vol.130, pp.305-313, 2013 (SCI-Expanded)

- X. **Carbon supported nano-sized Pt-Pd and Pt-Co electrocatalysts for proton exchange membrane fuel cells**  
Kadırgan F., Kannan A. M., ATILAN T., Beyhan S., OZENLER S. S., Suzer S., YORUR A.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.34, no.23, pp.9450-9460, 2009 (SCI-Expanded)
- XI. **Preparation and characterization of nano-sized Pt-Pd/C catalysts and comparison of their electro-activity toward methanol and ethanol oxidation**  
Kadırgan F., Beyhan S., ATILAN T.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.34, no.10, pp.4312-4320, 2009 (SCI-Expanded)
- XII. **Complexing agent effect on the stoichiometric ratio of the electrochemically prepared CuInSe<sub>2</sub> thin films**  
Beyhan S., SUZER S., KADIRGAN F.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.91, no.20, pp.1922-1926, 2007 (SCI-Expanded)

## Supported Projects

Beyhan S., Project Supported by Higher Education Institutions, Platin-kalay nanokatalizörünün etanol oksidasyonuna rodyumun etkisi: Fiziksel ve elektrokimyasal karakterizasyon, 2016 - 2018

Beyhan S., Project Supported by Higher Education Institutions, NANOBOYUTLU KARBON DESTEKLİ PLATİN-KALAY KATALİZÖRÜNE KOBALT İLAVESİNİN ETANOL OKSİDASYONU, 2015 - 2018

Beyhan S., Project Supported by Higher Education Institutions, Karbon Destekli Pts ve Ptsnco Katalizörlerinde Oksijenin İndirgenmesine Yönelik Döner disk Elektrot Çalışmaları, 2014 - 2018

Beyhan S., Project Supported by Higher Education Institutions, ETANOLİÜN ALKALİ ORTAMINDA TEK KRİSTALLİ ELEKTROTLAR ÜZERİNDEKİ OKSİDASYONU, 2011 - 2018

## Scientific Refereeing

Catalysis Communications, SCI Journal, August 2017

Electrochimica Acta, SCI Journal, August 2017

International Journal of Hydrogen Energy, SCI Journal, July 2017

International Journal of Hydrogen Energy, SCI Journal, June 2017

Materials Research Bulletin, SCI Journal, June 2017

International Journal of Hydrogen Energy, SCI Journal, May 2017

Industrial & Engineering Chemistry Research, SCI Journal, May 2017

ACS Catalysis, SCI Journal, June 2016

Catalysis Communications, SCI Journal, June 2016

International Journal of Hydrogen Energy, SCI Journal, July 2015

Catalysis Communications, SCI Journal, July 2015

ACS Catalysis, SCI Journal, December 2014

ACS Applied Materials&Interfaces, SCI Journal, May 2014

Catalysis Letters, SCI Journal, May 2014

International Journal of Hydrogen Energy, SCI Journal, April 2014

Materials Letters, SCI Journal, November 2013

International of Journal of Hydrogen Energy, SCI Journal, September 2013

Journal of Applied Electrochemistry, SCI Journal, June 2013

Applied Catalysis B: Environmental, SCI Journal, May 2013

Applied Catalysis B: Environmental, SCI Journal, February 2013

International Journal of Hydrogen Energy, SCI Journal, January 2013

## Metrics

Publication: 32

Citation (WoS): 552

Citation (Scopus): 569

H-Index (WoS): 10

H-Index (Scopus): 10

## Congress and Symposium Activities

Pil Teknolojileri Çalıştayı, Attendee, Kayseri, Turkey, 2016

Pil Teknolojileri Çalıştayı, Invited Speaker, Kayseri, Turkey, 2016

International Conference on Electrified Interfaces, (ICEI), Attendee, Singapore, Singapore, 2016

International Conference on Electrified Interfaces, (ICEI), Session Moderator, Singapore, Singapore, 2016

TIKİM's 2nd Annual International Conference on Nanoscience and Nanotechnology (ICNST), Attendee, Kolamba, Sri Lanka, 2015

14. Ulusal Spektroskopi Kongresi, Attendee, Elazığ, Turkey, 2015

2nd International Workshop on Nano Materials for Energy Conversion (NMEC-2), Attendee, Vietnam, 2014

IUPAC 44th World Chemistry Congress, Attendee, İstanbul, Turkey, 2013

International Workshop on Nanoscience and Nanotechnology, Invited Speaker, Sofija, Bulgaria, 2013

International Workshop on Nanoscience and Nanotechnology, Attendee, Sofija, Bulgaria, 2013

6. Ulusal Analitik Kimya Kongresi, Attendee, Hatay, Turkey, 2012

Electrocatalysis: Present and Future, ELCAT Meeting, Attendee, Alacant, Spain, 2011

9th International Electrochemistry Meeting, Attendee, İzmir, Turkey, 2011

10th International Conference on Clean Energy, Attendee, Gazimagusa, Cyprus (Kktc), 2010

ICH2P-International Conference on Hydrogen Production, Attendee, İstanbul, Turkey, 2010

217th Meeting of The Electrochemical Society, Attendee, Vancouver, Canada, 2010

2nd International Symposium on Surface Imaging/Spectroscopy at the Solid/Liquid Interface, Attendee, Kraków, Poland, 2009

59th Annual Meeting of the International Society of Electrochemistry, Attendee, Sevilla, Spain, 2008

The IASTED International Conference, Nanotechnology and Applications, Attendee, Greece, 2008

7th International Symposium on New Materials and Nanomaterials for Electrochemical Systems, Attendee, Montréal, Canada, 2008

Reunion du GDR n° 2985 "PACTE-PACEM", Attendee, France, 2008

57th Annual Meeting of International Society of Electrochemistry, Attendee, Edinburgh, United Kingdom, 2006

7. Elektrokimya Günleri, Attendee, Ankara, Turkey, 2006

9th International Conference on Solar Energy and Applied Photochemistry Solar 06, Attendee, Egypt, 2006

6. Elektrokimya Günleri, Attendee, Eskişehir, Turkey, 2005

55th Annual Meeting of International Society of Electrochemistry, Attendee, Thessaloniki, Greece, 2004

5. Ulusal Elektrokimya Günleri, Attendee, Samsun, Turkey, 2004

## Scholarships

Bourse du Gouvernement Français (BGF), Official Institutions of Foreign Countries, 2007 - 2010

## Non Academic Experience

University of Alicante, Spain

State Agency, National Institute for Material Science (NIMS), Nano Green Field

National Institute of Materials Science (NIMS), International Center for Materials Nanoarchitectonics (MANA), Tsukuba,  
Japan

Universite de Poitiers, Fransa