

## Res. Asst. PhD ORHAN ÖZCAN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: P-3028-2019

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### Education Information

Doctorate, Kocaeli University, Fen Bilimleri Enstitüsü, Turkey 2014 - 2023

Postgraduate, Kocaeli University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği Anabilim Dalı, Turkey 2011 - 2014

Undergraduate, Kocaeli University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Turkey 2007 - 2011

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Metanolden reformlama tepkimeleri ile hidrojen üretimi için reaktör sistemi tasarımları ve simülasyonu: katalizör geliştirilmesi ve kinetik model çalışmaları, Kocaeli University, Fen Bilimleri Enstitüsü, 2023

Postgraduate, Sol-jel yöntemi ile mezogözenekli nano-alümina ve CoMo/Al2O3 katalizörlerinin hazırlanması ve karakterizasyonu, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Kimya Mühendisliği Anabilim Dalı, 2014

### Research Areas

Chemical Engineering and Technology, Catalysis and Catalytic Processes, Chemical Process System Engineering, Process Design, Engineering and Technology

### Academic Titles / Tasks

Research Assistant PhD, Kocaeli University, Mühendislik Fakültesi, Kimya Mühendisliği, 2012 - Continues

### Courses

Introduction to Heterogeneous Catalysis, Undergraduate, 2023 - 2024  
Numerical Methods in Chemical Engineering, Undergraduate, 2023 - 2024  
Computer Aided Equipment Design, Undergraduate, 2023 - 2024  
Literature Survey and Technical Writing, Undergraduate, 2023 - 2024

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

- I. **Methanol steam reforming kinetics using a commercial CuO/ZnO/Al<sub>2</sub>O<sub>3</sub> catalyst: Simulation of a reformer integrated with HT-PEMFC system**  
Özcan O., Akin A. N.  
International Journal of Hydrogen Energy, vol.48, no.60, pp.22777-22790, 2023 (SCI-Expanded)
- II. **Comparison of a commercial water-gas shift catalyst and La modified Cu-based catalysts prepared by deposition-precipitation in methanol steam reforming**  
Özcan O., Akin A. N.  
TURKISH JOURNAL OF CHEMISTRY, vol.46, no.4, pp.1069-1080, 2022 (SCI-Expanded)
- III. **Thermodynamic modelling and optimization of oxy-reforming and oxy-steam reforming of biogas by RSM**  
Özcan M. D., Özcan O., Akin A. N.  
Environmental Technology (United Kingdom), vol.41, no.1, pp.14-28, 2020 (SCI-Expanded)
- IV. **Thermodynamic analysis of methanol steam reforming to produce hydrogen for HT-PEMFC: An optimization study**  
Özcan O., Akin A. N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.44, no.27, pp.14117-14126, 2019 (SCI-Expanded)
- V. **Preparation of Ni-CeO<sub>2</sub>/MgAl hydrotalcite-like catalyst for biogas oxidative steam reforming**  
Özcan M. D., Özcan O., Kibar M. E., Akin A. N.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.34, no.3, pp.1128-1142, 2019 (SCI-Expanded)
- VI. **Optimization, modeling and characterization of sol-gel process parameters for the synthesis of nanostructured boron doped alumina catalyst supports**  
Kibar M. E., Özcan O., Dusova-Teke Y., Yonet-Gumruk E., Akin A. N.  
MICROPOROUS AND MESOPOROUS MATERIALS, vol.229, pp.134-144, 2016 (SCI-Expanded)

### Refereed Congress / Symposium Publications in Proceedings

- I. **Synthesis and Characterization of La and Ga Promoted Copper-Containing Catalysts for Methanol Steam Reforming Reaction**  
Özcan O., Akin A. N.  
Eighth International Hydrogen Technologies Congress (IHTEC 2024), Diyarbakır, Turkey, 12 - 15 May 2024, pp.1-3
- II. **Reactivity of Nickel Based Monolithic Catalyst in the Oxidative Steam Reforming of Biogas with H<sub>2</sub>S**  
Doğan Özcan M., Özcan O., Akin A. N.  
Eighth International Hydrogen Technologies Congress (IHTEC 2024), Diyarbakır, Turkey, 12 - 15 May 2024, pp.1-3
- III. **Kinetic Modeling and Simulation Study of Methanol Steam Reforming Over a Commercial CuO/ZnO/Al<sub>2</sub>O<sub>3</sub> Catalyst**  
Özcan O., Akin A. N.  
The Sixth International Hydrogen Technologies Congress (IHTEC-2022), Çanakkale, Turkey, 23 - 26 January 2022, pp.82-84
- IV. **Hydrogen Production by Methanol Steam Reforming on a Commercial Water Gas Shift Catalyst**  
Özcan O., Akin A. N.  
NCC-8 National Catalysis Congress, Ankara, Turkey, 9 - 12 September 2021

- V. **Catalytic Activities of La<sub>2</sub>O<sub>3</sub>-Al<sub>2</sub>O<sub>3</sub> Supported Copper-Based Nanocatalysts for Methanol Steam Reforming**  
 Özcan O., Akin A. N.  
 ASC-5. 5th Anatolian School of Catalysis from fundamentals to applications, Izmir, Turkey, 8 - 11 September 2019
- VI. **Biyogazın Oksidatif Buhar Reformlaması İçin Hidrotalsit Benzeri Ni-Ce Katalizörleri: Mg/Al Oranının Rolü**  
 Doğan Özcan M., Özcan O., Akin A. N.  
 13. Ulusal Kimya Mühendisliği Kongresi (UKMK-13), Van, Turkey, 3 - 06 September 2018
- VII. **Thermodynamic modelling of oxy-reforming and oxy-steam reforming of biogas by using Aspen Plus: An optimization study by RSM**  
 Özcan Doğan M., Özcan O., Akin A. N.  
 6th European Conference on Renewable Energy Systems (ECRES2018), İstanbul, Turkey, 25 - 27 June 2018
- VIII. **Thermodynamic optimization of methanol steam reforming for HT-PEMFC grade hydrogen production based on Aspen Plus Software**  
 Özcan O., Akin A. N.  
 6th European Conference on Renewable Energy Systems (ECRES2018), İstanbul, Turkey, 25 - 27 June 2018
- IX. **Ultrasound-assisted Preparation of Cu-based Nanocatalysts: Structural Evaluation of La Addition**  
 Özcan O., Akin A. N.  
 4th Anatolian School of Catalysis (ASC-4), Izmir, Turkey, 11 - 14 September 2017
- X. **Effect of biogas composition in oxidative reforming over Ni-Ce/MgAl hydrotalcite like catalyst**  
 Özcan Doğan M., Özcan O., Akin A. N.  
 13 th European Congress on Catalysis – EuropaCat-XIII, Florence, Italy, 27 - 31 August 2017
- XI. **Preparation and hydrodesulfurization performance of B promoted alumina supported Co Mo sulfide catalysts**  
 Özcan O., Kibar M. E., Düşova Teke Y., Yönel Gümrük E., Akin A. N.  
 XXII. International Conference on Chemical Reactors, London, England, 19 - 23 September 2016
- XII. **Partial Oxidation of Biogas for Hydrogen Production over Ce-Promoted Ni/MgAl Hydrotalcite-Like Catalyst**  
 Enginetepe E., Doğan M., Özcan O., Kibar M. E., Akin A. N.  
 IEEES-8, Antalya, Turkey, 1 - 04 May 2016, pp.823-825
- XIII. **Synthesis Gas Production from Tri Reforming and Partial Oxidation of Simulated Biogas over Ni/ZrO<sub>2</sub>-MgO-Al<sub>2</sub>O<sub>3</sub>**  
 Doğan M., Enginetepe E., Özcan O., Kibar M. E., Akin A. N.  
 8th International Exergy, Energy and Environment Symposium, Antalya, Turkey, 1 - 04 May 2016
- XIV. **Influence of Boron Loading Sequence on HDS Catalyst Activity**  
 Düşova Teke Y., Yönel Gümrük E., Özcan O., Kibar M. E., Akin A. N.  
 8th International Exergy, Energy and Environment Symposium, Antalya, Turkey, 01 May 2016 - 04 May 2106, pp.672-675
- XV. **Oxidative Steam Reforming of Biogas by over NiCe/MgAl Hydrotalcite-like catalysts**  
 Doğan M., Özcan O., Kibar M. E., Akin A. N.  
 NCC 6, Bursa, Turkey, 27 - 30 April 2016, pp.114
- XVI. **Investigation of the Effects of Boric acid on Boria Alumina Catalyst Support**  
 Yonel Gumruk E., Dusova Teke Y., Seckin C., Özcan O., Kibar M. E., Akin A. N.  
 4th Nano Today Conference, Dubai, United Arab Emirates, 6 - 10 December 2015
- XVII. **Modelling and Optimization of Sol Gel Process Parameters to Synthesize Nano Structured Boria Alumina Catalysts Supports Response Surface Methodology Approach**  
 Özcan O., Düşova Teke Y., Kibar M. E., Seçkin C., Yönel Gümrük E., Akin A. N.  
 12. European Congress on Catalysis, Kazan, Russia, 30 August - 04 September 2015
- XVIII. **Development of a hydroprocessing catalyst containing Boron and Nano-boron compounds**  
 Yönel Gümrük E., Kartal Berker A. M., Özcan O., Kibar M. E., Akin A. N.  
 Nanotech Advanced Materials & Applications Innovation Conference and Expo, Washington, United States Of

America, 15 - 18 June 2014

- XIX. **One-Pot Sol-Gel Synthesis of Cobalt-Molybdenum-Alumina Catalysts**  
Özcan O., Akin A. N.  
5th National Catalysis Conference, Adana, Turkey, 23 - 26 April 2014, pp.326
- XX. **Preparation of mesoporous  $\gamma$ -alumina by Sol-Gel method**  
Özcan O., Akin A. N.  
11th European Congress on Catalysis – EuropaCat-XI, Lyon, France, 1 - 06 September 2013
- XXI. **Üçüncü Nesil Biyoyakıt Üretiminde Kullanılacak Nanokatalizörlerin Sol-Jel Yöntemi ile Sentezi**  
Özcan O., Kibar M. E., Akin A. N.  
3.İleri Teknolojiler Çalıştayı, İTÇ 2012, İstanbul, Turkey, 4 - 06 October 2012
- XXII. **Alglerden Yakıt Üretim Teknolojileri**  
Özcan O., Kibar M. E., Akin A. N.  
3.İleri Teknolojiler Çalıştayı İTÇ 2012, İstanbul, Turkey, 4 - 06 October 2012
- XXIII. **Preparation and Characterization of Co-Mo/Al<sub>2</sub>O<sub>3</sub> Catalysts Prepared by Sol-Gel Method For Catalytic Hydrotreatment Reaction of Algae-Oil**  
Özcan O., Kibar M. E., Akin A. N.  
EFCATS Summer School 2012, Milan, Italy, 11 - 15 September 2012
- XXIV. **SOL-GEL YÖNTEMİYLE BOR-ALUMİNA DESTEK MALZEMESİİN HAZIRLANMASI**  
Teke Düşova Y., Özcan O., Kibar M. E., Seçkin C., Yönel Gümrük E., Akin A. N.  
11. Ulusal Kimya Mühendisliği Kongresi 2014, Eskişehir, Turkey, 2 - 05 September 2014
- XXV. **Hidrojen Sülfürden Elektroliz Yöntemi İle Hidrojen Üretim Teknolojisini İncelenmesi**  
Özcan O., Akay R. G., Akin A. N.  
İleri Teknolojiler Çalıştayı (İTÇ 2011), İstanbul, Turkey, 09 December 2011, pp.81-88

## Patent

Gümrük E., Seçkin Ö. C., Teke Y., Akin A. N., Özcan O., Kibar M. E., A METHOD FOR PRODUCTION OF A CATALYST SUPPORTING MATERIAL, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: WO/2017/048205 , Standard Registration, 2017

## Metrics

Publication: 36

Citation (WoS): 101

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