

## Prof. NAİME ASLI SEZGİ

### Personal Information

Office Phone: [+90 312 210 2608](tel:+903122102608)

Email: [sezgi@metu.edu.tr](mailto:sezgi@metu.edu.tr)

Web: <https://avesis.metu.edu.tr/sezgi>

### International Researcher IDs

ScholarID: 3690505683

ORCID: 0000-0003-4724-3344

Publons / Web Of Science ResearcherID: ABA-7453-2020

ScopusID: 35616836700

Yoksis Researcher ID: 163608

### Education Information

Doctorate, Middle East Technical University, Faculty of Engineering, Department of Chemical Engineering, Turkey 1991 - 1996

Postgraduate, Middle East Technical University, Faculty of Engineering, Department of Chemical Engineering, Turkey 1988 - 1991

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Chemical Engineering, Turkey 1984 - 1988

### Research Areas

Chemical Engineering and Technology, Chemical Technologies, Process and Reactor Design, Engineering and Technology

### Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Chemical Engineering, 2009 - Continues

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

- I. **High-yield production of lactide isomers from depolymerization of polylactic acid in supercritical carbon dioxide**  
SİVRİ S., SEZGİ N. A., DİLEK HACIHABİBOĞLU Ç.  
Journal of Supercritical Fluids, vol.217, 2025 (SCI-Expanded)
- II. **Process intensification methods in steam reforming of ethanol with nickel impregnated mesoporous carbon: Microwave heating and sorption enhanced reforming**  
Sarıyer M., Sezgi N. A., Doğu T.  
International Journal of Hydrogen Energy, vol.67, pp.912-924, 2024 (SCI-Expanded)
- III. **Effects of synthesis route on the performance of mesoporous ceria-alumina and ceria-zirconia-alumina supported nickel catalysts in steam and autothermal reforming of diesel**  
Bozda A. A., Sezgi N. A., Doğu T.

- INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.47, no.7, pp.4568-4583, 2022 (SCI-Expanded)
- IV. **Development of ceria and tungsten promoted nickel/alumina catalysts for steam reforming of diesel**  
Bozdag A. A., Kaynar A. D. D., Doğu T., Sezgi N. A.  
CHEMICAL ENGINEERING JOURNAL, vol.377, 2019 (SCI-Expanded)
- V. **Performance comparison of microwave and conventionally heated reactors for sorption enhanced reforming of ethanol over Ni impregnated SBA-15**  
Sariyer M., Bozdag A. A., Sezgi N. A., Doğu T.  
CHEMICAL ENGINEERING JOURNAL, vol.377, 2019 (SCI-Expanded)
- VI. **Synthesis and Characterization of Aluminum Containing Silica Aerogel Catalysts for Degradation of PLA**  
Sivri S., Dilek Hacıhabiboğlu Ç., Sezgi N. A.  
INTERNATIONAL JOURNAL OF CHEMICAL REACTOR ENGINEERING, vol.17, 2019 (SCI-Expanded)
- VII. **Pyrolysis of Polyethylene over Aluminum-Incorporated MCM-41 Catalyst**  
Aydemir B., SEZGİ N. A.  
CHEMICAL ENGINEERING COMMUNICATIONS, vol.203, no.5, pp.635-641, 2016 (SCI-Expanded)
- VIII. **The Effects of Co-Mo/CaCO<sub>3</sub> Catalyst's Calcination Temperature and Co/Mo Weight Ratio on Carbon Nanotube Production**  
Hocaoglu C., SEZGİ N. A.  
CHEMICAL ENGINEERING COMMUNICATIONS, vol.202, no.8, pp.1041-1050, 2015 (SCI-Expanded)
- IX. **Alumina and Tungstophosphoric Acid Loaded Mesoporous Catalysts for the Polyethylene Degradation Reaction**  
Aydemir B., SEZGİ N. A.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.52, no.44, pp.15366-15371, 2013 (SCI-Expanded)
- X. **Synthesis of boron nitride nanotubes from ammonia and a powder mixture of boron and iron oxide**  
Ozmen D., SEZGİ N. A., BALCI F. S.  
CHEMICAL ENGINEERING JOURNAL, vol.219, pp.28-36, 2013 (SCI-Expanded)
- XI. **Dimethyl ether, diethyl ether & ethylene from alcohols over tungstophosphoric acid based mesoporous catalysts**  
Ciftci A., Varışlı D., Tokay K. C., Sezgi N. A., Doğu T.  
CHEMICAL ENGINEERING JOURNAL, vol.207, pp.85-93, 2012 (SCI-Expanded)
- XII. **Catalytic degradation of polypropylene over alumina loaded mesoporous catalysts**  
Obali Z., SEZGİ N. A., DOĞU T.  
CHEMICAL ENGINEERING JOURNAL, vol.207, pp.421-425, 2012 (SCI-Expanded)
- XIII. **Boron Oxide Production Kinetics Using Boric Acid as Raw Material**  
BALCI F. S., SEZGİ N. A., Eren E.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.51, no.34, pp.11091-11096, 2012 (SCI-Expanded)
- XIV. **Synthesis of TPA impregnated SBA-15 catalysts and their performance in polyethylene degradation reaction**  
Aydemir B., SEZGİ N. A., DOĞU T.  
AIChE JOURNAL, vol.58, no.8, pp.2466-2472, 2012 (SCI-Expanded)
- XV. **Gas phase reaction kinetics in boron fibre production**  
Firat F., SEZGİ N. A., Ozbelge H. O., DOĞU T.  
AIChE JOURNAL, vol.58, no.5, pp.1562-1569, 2012 (SCI-Expanded)
- XVI. **The synthesis and characterization of aluminum loaded SBA-type materials as catalyst for polypropylene degradation reaction**  
Obali Z., SEZGİ N. A., DOĞU T.  
CHEMICAL ENGINEERING JOURNAL, vol.176, pp.202-210, 2011 (SCI-Expanded)
- XVII. **Nafion-Incorporated Silicate Structured Nanocomposite Mesoporous Catalysts for Dimethyl Ether Synthesis**  
Ciftci A., SEZGİ N. A., DOĞU T.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.49, no.15, pp.6753-6762, 2010 (SCI-Expanded)

- XVIII. **Production of B<sub>4</sub>C Coatings by CVD Method in a Dual Impinging-Jet Reactor: Chemical Yield, Morphology, and Hardness Analysis**  
Karaman M., SEZGİ N. A., Oezbelge H. O.  
AICHE JOURNAL, vol.55, no.11, pp.2914-2919, 2009 (SCI-Expanded)
- XIX. **Mechanism Studies on CVD of Boron Carbide from a Gas Mixture of BCl<sub>3</sub>, CH<sub>4</sub>, and H<sub>2</sub> in a Dual Impinging-jet Reactor**  
Karaman M., SEZGİ N. A., DOĞU T., Ozbelge H. O.  
AICHE JOURNAL, vol.55, no.3, pp.701-709, 2009 (SCI-Expanded)
- XX. **Performance of Acidic MCM-Like Aluminosilicate Catalysts in Pyrolysis of Polypropylene**  
Obali Z., SEZGİ N. A., DOĞU T.  
CHEMICAL ENGINEERING COMMUNICATIONS, vol.196, pp.116-130, 2009 (SCI-Expanded)
- XXI. **Kinetic investigation of chemical vapor deposition of B<sub>4</sub>C on tungsten substrate**  
Karaman M., Sezgi N. A., Dogu T., Ozbelge H. O.  
AICHE JOURNAL, vol.52, no.12, pp.4161-4166, 2006 (SCI-Expanded)
- XXII. **Synthesis and characterization of boron carbide films by plasma-enhanced chemical vapor deposition**  
Eroglu O., Sezgi N., Ozbelge H., Durmazucar H.  
CHEMICAL ENGINEERING COMMUNICATIONS, vol.190, no.3, pp.360-372, 2003 (SCI-Expanded)
- XXIII. **CVD of boron and dichloroborane formation in a hot-wire fiber growth reactor**  
Sezgi N., Ersoy A., Dogu T., Ozbelge H.  
CHEMICAL ENGINEERING AND PROCESSING, vol.40, no.6, pp.525-530, 2001 (SCI-Expanded)
- XXIV. **Kinetic studies for boron carbide formation in a dual impinging-jet reactor**  
Noyan-Dilek S., Ozbelge H., Sezgi N., Dogu T.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.40, no.3, pp.751-755, 2001 (SCI-Expanded)
- XXV. **BHCl<sub>2</sub> formation during chemical vapor deposition of boron in a dual-impinging jet reactor**  
Sezgi N., Dogu T., Ozbelge H.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.36, no.12, pp.5537-5540, 1997 (SCI-Expanded)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Microwave-Heated Carbon-Coated Monolithic Reactor for Steam Reforming of Ethanol**  
SARIYER M., SEZGİ N. A., Doğu T.  
ISCRE 28 International Symposium on Chemical Reaction Engineering 2024, Turku, Finland, 16 June 2024
- II. **Steam Reforming of Ethanol with Nickel Impregnated Silica Aerogel in a Microwave Reactor**  
SARIYER M., SEZGİ N. A., Doğu T.  
9th National Catalysis Congress (NCC9), Çanakkale, Turkey, 7 - 09 September 2023
- III. **Mezogözenekli destek malzemelerinin hidrojen verimi üzerindeki etkisi ve süreç yoğunlaştırma çalışmaları**  
SARIYER M., SEZGİ N. A., Doğu T.  
15. Ulusal Kimya Mühendisliği Kongresi (UKMK 15), Çanakkale, Turkey, 4 - 07 September 2023
- IV. **Depolymerization of Polylactic Acid in Supercritical Carbon Dioxide**  
SİVRİ S., SEZGİ N. A., DİLEK HACIHABİBOĞLU Ç.  
the 19th European Meeting on Supercritical Fluids (EMSF2023), Budapest, Hungary, 21 - 24 May 2023, pp.72
- V. **Outperformance of a Microwave-Heated Reactor over a Conventional Reactor in Steam and Sorption Enhanced Reforming of Etanol over Ni-Silica-Aerogel Catalyst**  
Doğu T., SARIYER M., SEZGİ N. A.  
2022 AIChE Annual Meeting, Phoenix, United States Of America, 13 - 18 November 2022
- VI. **Mikrodalga reaktör sisteminde farklı destek malzemelerine nikel emdirilmiş katalizörlerin etanolün buharlı reformlanması reaksiyonunda incelenmesi**  
SARIYER M., SEZGİ N. A., Doğu T.

6th Anatolian School of Catalysis 2022, İzmir, Turkey, 23 September 2022

- VII. **Performance of Microwave and Conventionally Heated Reactor Systems in Steam Reforming of Ethanol over Nickel Impregnated Mesoporous Carbon**  
SARIYER M., SEZGİ N. A., Doğu T.  
WHEC 2022, İstanbul, Turkey, 26 - 30 June 2022
- VIII. **Steam Reforming of Ethanol over Nickel Impregnated Silica Aerogel**  
SARIYER M., SEZGİ N. A., doğu T.  
NCC8, Turkey, 9 - 12 September 2021
- IX. **Recycling of Polylactic Acid by Pyrolysis over Aluminum Loaded Silica Aerogel**  
Sivri S., Dilek Hacıhabiboğlu Ç., Sezgi N. A.  
EMCC 9, Ankara, Turkey, 31 August - 02 September 2018
- X. **Performance of Aluminum and Tungstophosphoric Acid Loaded Silica Aerogel in Degradation of Polypropylene**  
Habib A. R. R., Doğu T., SEZGİ N. A.  
EMCC 9, 31 August - 02 September 2018
- XI. **Temperature Effect on Methanol Synthesis from Syngas over Cu-Zn Based Catalyst**  
PEKMEZCİ KARAMAN B., OKTAR N., Doğu G., SEZGİ N. A., Doğu T.  
EMCC 9, 31 August - 02 September 2018
- XII. **The Effect of Divided Section Packing Concept on Hydrogen Purity in Sorption Enhanced Steam Reforming of Ethanol**  
SARIYER M., SEZGİ N. A., Doğu T.  
EMCC 9, 31 August - 02 September 2018
- XIII. **Performances of Microwave and Conventionally Heated Reactors in Sorption Enhanced Reforming of Ethanol over Ni Impregnated SBA-15**  
Sariyer M., Arslan Bozdağ A., Sezgi N. A., Doğu T.  
ISCRE 25, Florence, Italy, 20 - 23 May 2018
- XIV. **CeO<sub>2</sub> and W Modified Mesoporous Ni/Al<sub>2</sub>O<sub>3</sub> Catalysts for Hydrogen Production by Steam Reforming of Diesel Fuel**  
ARSLAN BOZDAĞ A., Deniz Kaynar A. D., SEZGİ N. A., Doğu T.  
ISCRE 25, 20 - 23 May 2018
- XV. **Copper-Zinc Based Bifunctional Catalysts Containing Zirconia and Alumina Promoters for Methanol Synthesis**  
PEKMEZCİ KARAMAN B., OKTAR N., SEZGİ N. A., Doğu G., Doğu T.  
International Congress on Engineering and Life Science, 26 - 29 April 2018
- XVI. **Production and Characterization of Boron Nitride Nanotubes from Reaction of Ammonia with Mixture of Boron and Iron Powders**  
SEZGİ N. A., Noyan S.  
2017 MRS Fall Meeting Exhibit, 26 November - 01 December 2017
- XVII. **Effect of Pressure on Direct Dimethyl Ether (DME) Synthesis from Syngas over Tungstophosphoric Acid (TPA) Impregnated Mesoporous Alumina Catalyst**  
ERKAL D., OKTAR N., SEZGİ N. A., DOĞU G., DOĞU T.  
The Porous and Powder Materials Symposium and Exhibitions (PPM 2017), 12 - 15 September 2017
- XVIII. **Performance of TPA Incorporated Cu-Zn based Catalysts in Dimethyl Ether and Methanol Synthesis from Syngas**  
PEKMEZCİ KARAMAN B., OKTAR N., SEZGİ N. A., GÜLŞEN D., TİMUR D.  
The Porous and Powder Materials Symposium and Exhibitions (PPM 2017), 12 - 15 September 2017
- XIX. **Methanol Steam Reforming over Silica Aerogel Catalyst for Hydrogen Production**  
DEĞİRMENCİOĞLU P., SEZGİ N. A., Doğu T.  
3rd International Porous Powder Materials Symposium and Exhibition (PPM 2017), 12 - 15 September 2017
- XX. **Effect of Tungsten or Ceria Incorporation into Ni/Al<sub>2</sub>O<sub>3</sub> Catalysts on Hydrogen Production through Diesel Steam Reforming Reaction**

- ARSLAN BOZDAĞ A., Deniz Kaynar A. D., SEZGİ N. A., Doğu T.  
4th Anatolian School of Catalysis, 11 - 14 September 2017
- XXI. **Effect of Nickel impregnated Catalyst Supports on Hydrogen Yield in the Ethanol Steam Reforming Reaction**  
SARIYER M., SEZGİ N. A., Doğu T.  
4th Anatolian School of Catalysis, 11 - 14 September 2017
- XXII. **Development of Bifunctional Catalyst for the Single-Step Synthesis of Dimethyl Ether**  
Şener M. İ., SEZGİ N. A., Doğu T., OKTAR N.  
4th Anatolian School of Catalysis, 11 - 14 September 2017
- XXIII. **Hydrogen Production through Diesel Steam Reforming Reaction over CeO<sub>2</sub> or W Incorporated Al<sub>2</sub>O<sub>3</sub> Supported Ni Catalysts**  
ARSLAN BOZDAĞ A., Deniz Kaynar A. D., SEZGİ N. A., Doğu T.  
Hypothesis XII, Siracusa, Italy, 28 - 30 June 2017
- XXIV. **Development of Tungsten or Ceria Incorporated Mesoporous Alumina Supported Nickel Catalysts for Hydrogen Production through Diesel Steam Reforming Reaction**  
ARSLAN BOZDAĞ A., Deniz Kaynar A. D., SEZGİ N. A., Doğu T.  
2 nd hydrogen Technologies Congress, 15 - 18 March 2017
- XXV. **Sorption Enhanced Steam Reforming of Ethanol with Ceria-SBA-15 Supported Nickel Catalysts**  
SARIYER M., ARSLAN BOZDAĞ A., SEZGİ N. A., Doğu T.  
2nd International Hydrogen Technologies Congress, 15 - 18 March 2017
- XXVI. **Polypropylene Boron Nitride Nanotube Composites Synthesis Modification Processing and Characterization**  
Sezgi N. A., Bayram G., Demir C.  
2016 MRS Fall Meeting, Massachusetts, United States Of America, 27 November - 02 December 2016
- XXVII. **Tungstofosforik Asit Yüklü Mezogözenekli Alümina Katalizörlerin DME Üretimi İçin Sentezlenmesi**  
Şener M. İ., SEZGİ N. A., Doğu T., Doğu G., OKTAR N.  
12. Ulusal Kimya Mühendisliği Kongresi, Turkey, 23 - 26 August 2016
- XXVIII. **Ni SBA 15 Katalizörü Üzerinde Adsorpsiyon Destekli Buharlı Etanol Reformlanmanın Elektrik Isıtmalı ve Mikrodalga Reaktörde İncelenmesi**  
SARIYER M., ARSLAN BOZDAĞ A., SEZGİ N. A., Doğu T.  
12. Ulusal Kimya Mühendisliği Kongresi, Turkey, 23 - 26 August 2016
- XXIX. **Sentez Gazından DME Metanol Üretimi**  
PEKMEZCİ B., Erkal D., OKTAR N., Doğu G., SEZGİ N. A., Doğu T.  
12. Ulusal Kimya Mühendisliği, Turkey, 23 - 26 August 2016
- XXX. **Development of Ceria Alumina Supported Nickel Catalysts for Steam Reforming of Diesel**  
ARSLAN BOZDAĞ A., Deniz Kaynar A. D., SEZGİ N. A., Doğu T.  
21 st World Hydrogen Energy Conference 2016, 13 - 16 June 2016
- XXXI. **Effects of Synthesis Route Calcination Temperature on Structural and Acidic Properties of Mesoporous gamma Al<sub>2</sub>O<sub>3</sub>**  
Erkal D., Bekmezci B., OKTAR N., Doğu G., SEZGİ N. A., Doğu T.  
The 6th Catalysis Conference, Turkey, 27 - 30 April 2016
- XXXII. **Synthesis of Tungstophosphoric Acid Incorporated Mesoporous Alumina Catalysts for Methanol Dehydration in DME Synthesis**  
Şener M. İ., SEZGİ N. A., Doğu T., Doğu G., OKTAR N.  
The 6th Catalysis Conference, Turkey, 27 - 30 April 2016
- XXXIII. **Ceria Incorporated Alumina Supported Nickel Catalysts for Steam Reforming Reaction of Diesel Fuel**  
ARSLAN BOZDAĞ A., Deniz Kaynar A. D., SEZGİ N. A., Doğu T.  
The 6 th Catalysis Conference, Turkey, 27 - 30 April 2016
- XXXIV. **Sorption Enhanced Steam Reforming of Ethanol Over Ni Impregnated SBA 15 Catalys**  
SARIYER M., ARSLAN BOZDAĞ A., SEZGİ N. A., Doğu T.  
The 6 th Catalysis Conference, Turkey, 27 - 30 April 2016

- XXXV. **Pyrolysis of polystyrene over SAPO 34**  
Tülay B., SEZGİ N. A., Timur D.  
2015 AIChE Annual Meeting, 8 - 13 November 2015
- XXXVI. **Effect of metal incorporation on the structural properties of SBA 15**  
SARIYER M., Aslan A., SEZGİ N. A., Dogu T.  
PPM 2015, 15 - 18 September 2015
- XXXVII. **Sorption enhanced reforming of ethanol in a microwave reactor**  
Dogu T., Aslan A., SARIYER M., SEZGİ N. A.  
12th international conference on gas-liquid and gas-liquid-solid reactor engineering, 28 June - 01 July 2015
- XXXVIII. **Mechanism and characterization studies on boron carbides deposited by chemical vapor deposition technique**  
Karaman M., Özbelge H. Ö., Sezgi N. A., Doğu T.  
Symposium on Materials and Technologies for Direct Thermal-to-Electric Energy Conversion held at the 2005 MRS Fall Meeting, Massachusetts, United States Of America, 28 November - 02 December 2005, vol.886, pp.455-456
- XXXIX. **Kinetic Studies of Boron Carbide Formation by Chemical Vapor Deposition**  
Noyan D., HÖ Ö., Dogu T., SEZGİ N. A.  
35 inci yıl ve üç uluslu Amerika-Türkiye-İsrail konferansı, 9 - 11 March 1999
- XL. **Mechanism of CVD of Boron by Hydrogen Reduction of BCl<sub>3</sub>**  
SEZGİ N. A., Dogu T., HÖ O.  
ISCRE 15, 13 - 16 September 1998
- XLI. **Polyethylene Pyrolysis Theory and Experiments for Molecular Weight Distribution Kinetics**  
SEZGİ N. A., SC W., Smith J., BJ M.  
ISCRE 15, 13 September 1998 - 16 September 1996
- XLII. **Kinetic Studies for CVD of Boron in an Impinging Jet Reactor**  
SEZGİ N. A., Dogu T., HÖ O.  
Fifth World Congress of Chemical Engineering Technologies Critical to a Changing World, 14 - 18 July 1996

## Supported Projects

- SEZGİ N. A., SARIYER M., Project Supported by Higher Education Institutions, Etanolün Döngüsel Adsorpsiyon Destekli Buharlı Reformlanması, 2021 - 2022
- SEZGİ N. A., Project Supported by Higher Education Institutions, HİDROJEN ÜRETİMİ İÇİN SİLİKA AEROJEL İLE METANOL BUHAR REFORMLANMASI, 2017 - 2017
- SEZGİ N. A., Project Supported by Higher Education Institutions, MİKRODALGA REAKTÖRDE METANOLÜN BUHARLI REFORMLANMASINDAN HİDROJEN ÜRETİMİ, 2017 - 2017
- SEZGİ N. A., Project Supported by Higher Education Institutions, ADSORPSİYON DESTEKLİ METANOLÜN BUHAR REFORMLANMASI REAKSİYONU İÇİN BAKIR YÜKLENMİŞ MEZOGÖZENEKLİ KARBON KATALİZÖRLERİN SENTEZLENMESİ, 2017 - 2017
- SEZGİ N. A., ARSLAN BOZDAĞ A., Project Supported by Higher Education Institutions, DİZELİN REFORMLANMA REAKSİYONLARINDA KULLANILMAK ÜZERE CeO<sub>2</sub> ve W İÇERİKLİ KATALİZÖR DESTEK MALZEMESİ GELİŞTİRİLMESİ, 2017 - 2017
- SEZGİ N. A., Project Supported by Higher Education Institutions, ALKOLERİN YENİ KATALİZÖRLERLE MİKRODALGA REAKTÖRDE ADSORPSİYON DESTEKLİ BUHARLI REFORMLANMASI, 2017 - 2017
- SEZGİ N. A., Project Supported by Higher Education Institutions, Mezogözenekli Zirkonyum Oksit destek maddesi ile etanolün buharlı reformlanması, 2014 - 2014
- SEZGİ N. A., Bursalı T., Project Supported by Higher Education Institutions, SAPO-34 Katalizörünün Plastik Atıkların Bozunma Reaksiyonundaki Performansı, 2013 - 2014
- SEZGİ N. A., BURSALI T., Project Supported by Higher Education Institutions, PLASTİK ATIKLARIN SAPO-34 KATALİZÖRÜ ÜZERİNDE PİROLİZİ, 2013 - 2013
- SEZGİ N. A., Project Supported by Higher Education Institutions, Polietilenin Katalitik Parçalanması, 2008 - 2008

## **Metrics**

Publication: 84

Citation (WoS): 482

Citation (Scopus): 520

H-Index (WoS): 13

H-Index (Scopus): 13

## **Non Academic Experience**

METU

METU

METU

METU

University of California, Davis

METU