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Personal Information

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Education Information

Doctorate, Istanbul University, Kimya Fakültesi, Turkey 1971 - 1976

Postgraduate, Istanbul University, Kimya Fakültesi, Kimya Mühendisliği, Turkey 1967 - 1971

Research Areas

Chemical Engineering and Technology, Chemical Technologies, Polymer Technology, Process and Reactor Design, Catalysis and Catalytic Processes, Chemical Process System Engineering, Mechanical Engineering, Energy, Hydrogen Technologies and Fuel Cells , Chemistry, Physical Chemistry, Characterization of Polymers, Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Professor, Istanbul University, Mühendislik, Kimya Mühendisliği, 1989 - Continues

Associate Professor, Istanbul University, Mühendislik, Kimya Mühendisliği, 1982 - 1989

Assistant Professor, Istanbul University, Mühendislik, Kimya Mühendisliği, 1982 - 1982

Academic and Administrative Experience

İstanbul Üniversitesi, Kimya Mühendisliği, 2011 - Continues

İstanbul Üniversitesi, Fen Bilimleri, 2013 - 2014

Courses

Kimya Müh.Laboratuvarı I, Undergraduate, 2013 - 2014

Çok Fazlı Reaktörler, Doctorate, 2013 - 2014

Bitirme Projesi II, Undergraduate, 2013 - 2014

Kimya Müh.Laboratuvarı II, Undergraduate, 2013 - 2014

İleri Reaktör Tasarımı, Postgraduate, 2013 - 2014

Bitirme Projesi I, Undergraduate, 2013 - 2014

İleri Bioreaktör Tasarımı, Postgraduate, 2013 - 2014

Polimer İşleme ve Reoloji, Doctorate, 2013 - 2014

Bioreaktör Tasarımı, Undergraduate, 2013 - 2014

Kimyasal Reaksiyon Mühendisliği, Undergraduate, 2013 - 2014

İleri Reaktör Tasarımı, Postgraduate, 2010 - 2011, 2009 - 2010
İleri Bioreaktör Tasarımı, Postgraduate, 2010 - 2011
Polimer İşleme ve Reoloji, Doctorate, 2009 - 2010
Polimer Fiziği, Undergraduate, 2010 - 2011, 2009 - 2010
Kimyasal Reaksiyon Mühendisliği, Undergraduate, 2009 - 2010
Bioreaktör Tasarımı, Undergraduate, 2009 - 2010
Çok Fazlı Reaktörler, Doctorate, 2009 - 2010

Advising Theses

GÜRKAYNAK M. A., Metanın oksidatif birleşme reaksiyonu için etkin katalizörlerin hazırlanması ve karakterizasyonu, Doctorate, H.Özdemir(Student), 2009

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Investigation of the influence of reaction parameters on Mn/Na₂WO₄/SiO₂ catalyst for the oxidative coupling of methane**
ÖZDEMİR H., ÖKSÜZÖMER M. A. F., Gurkaynak M. A.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.1, pp.495-506, 2020 (SCI-Expanded)
- II. **Synthesis, Spectral Characterization and Antimicrobial Activity of Some Transition Metal Complexes of 1,3-Bis(1H-benzimidazol-2-yl)-2-oxapropane**
Tavman A., Cinarli A., Gurbuz D., Tan A. S., Oksuzomer M. A. F., Tuysuz M., Gurkaynak M. A., YALÇIN B.
JOURNAL OF THE CHINESE CHEMICAL SOCIETY, vol.61, no.12, pp.1377-1387, 2014 (SCI-Expanded)
- III. **Effect of the calcination temperature on Ni/MgAl₂O₄ catalyst structure and catalytic properties for partial oxidation of methane**
Ozdemir H., Oksuzomer M. A. F., Gurkaynak M. A.
FUEL, vol.116, pp.63-70, 2014 (SCI-Expanded)
- IV. **Preparation and characterization of Ca-Sm-Ce mixed oxides via cellulose templating method for solid oxide fuel cell applications**
Ozdemir H., Sariboga V., Oksuzomer M. A. F., Gurkaynak M. A.
JOURNAL OF POWER SOURCES, vol.219, pp.155-162, 2012 (SCI-Expanded)
- V. **The effect of temperature on the molecular structure of Raman asphaltenes during pyrolysis**
Akmaz S., Gurkaynak M. A., Yasar M.
JOURNAL OF ANALYTICAL AND APPLIED PYROLYSIS, vol.96, pp.139-145, 2012 (SCI-Expanded)
- VI. **The preparation of novel silica modified polyimide membranes: synthesis, characterization, and gas separation properties**
Boroglu M. S., Gurkaynak M. A.
POLYMERS FOR ADVANCED TECHNOLOGIES, vol.22, no.5, pp.545-553, 2011 (SCI-Expanded)
- VII. **Fabrication and characterization of silica modified polyimide-zeolite mixed matrix membranes for gas separation properties**
Boroglu M. S., Gurkaynak M. A.
POLYMER BULLETIN, vol.66, no.4, pp.463-478, 2011 (SCI-Expanded)
- VIII. **Preparation of Ytria-Stabilized Zirconia by the Reverse Microemulsion Method and the Effect of Sc and Ce Doping on Microstructure and Ionic Conductivity for Solid Oxide Fuel Cell Applications**
Oksuzomer F., Vatansever S., Koc S. N., Deligoz H., Gurkaynak M. A., Somer M.
INTERNATIONAL JOURNAL OF APPLIED CERAMIC TECHNOLOGY, vol.8, no.1, pp.42-48, 2011 (SCI-Expanded)
- IX. **Preparation and characterization of Ni based catalysts for the catalytic partial oxidation of methane: Effect of support basicity on H₂/CO ratio and carbon deposition**

Ozdemir H., Oksuzomer M. A. F., Gurkaynak M. A.

INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.35, no.22, pp.12147-12160, 2010 (SCI-Expanded)

- X. **The preparation and characterization of poly(acrylic acid-co-methacrylamide) gel and its use in the non-competitive heavy metal removal**
Cavus S., Gurdag G., Sozgen K., Gurkaynak M. A.
POLYMERS FOR ADVANCED TECHNOLOGIES, vol.20, no.3, pp.165-172, 2009 (SCI-Expanded)
- XI. **Synthesis and characterization of sulfonated homo- and co-polyimides based on 2,4 and 2,5-diaminobenzenesulfonic acid for proton exchange membranes**
Deligoz H., Vatansever S., Oksuzomer F., Koc S. N., Ozgumus S., Gurkaynak M. A.
POLYMERS FOR ADVANCED TECHNOLOGIES, vol.19, no.12, pp.1792-1802, 2008 (SCI-Expanded)
- XII. **The effects of fatty acids on the particle size distribution of the Portland cement**
GÜRKAYNAK M. A., ALBAYRAK A. T.
JOURNAL OF MATERIALS SCIENCE, no.42, pp.5170-5174, 2007 (SCI-Expanded)
- XIII. **Catalytic Dehydrogenation of Tetradecanol over Copper/Barium Oxide Catalysts**
POZAN SOYLU G. S., BOZ İ., GÜRKAYNAK M. A.
Chemical and Biochemical Eng. Q. Journal, vol.21, no.3, pp.235-240, 2007 (SCI-Expanded)
- XIV. **Effect of sol-gel modifications on formation and morphological properties of nanocrystalline lanthanum aluminate as a potential SOFC electrolyte**
GÜRKAYNAK M. A.
MATERIALS RESEARCH BULLETIN, no.41, 2006 (SCI-Expanded)
- XV. **The competitive heavy metal removal by hydroxyethyl cellulose-g-poly(acrylic acid) copolymer and its sodium salt: The effect of copper content on the adsorption capacity**
Cavus S., Gurdag G., Yasar M., Guclu K., Gurkaynak M. A.
POLYMER BULLETIN, vol.57, no.4, pp.445-456, 2006 (SCI-Expanded)
- XVI. **Influence of monofunctional reactants on the physical properties of dimer acid-based polyamides**
Cavus S., Gurkaynak M.
POLYMERS FOR ADVANCED TECHNOLOGIES, vol.17, no.1, pp.30-36, 2006 (SCI-Expanded)
- XVII. **Structural characterization of silica modified polyimide membranes**
Boroglu M., Boz I., Gurkaynak M.
POLYMERS FOR ADVANCED TECHNOLOGIES, vol.17, no.1, pp.6-11, 2006 (SCI-Expanded)
- XVIII. **, Cement and Concrete Research**
YAŞAR M., ALBAYRAK A. T., GÜRGEY İ., GÜRKAYNAK M. A.
MATERIALS SCIENCE, no.35, pp.400-404, 2005 (SCI-Expanded)
- XIX. **The effects of fatty acids on the particle size distribution of the Portland cement**
YAŞAR M., ALBAYRAK A. T., GÜRKAYNAK M. A., GÜRGEY İ.
JOURNAL OF MATERIALS SCIENCE, vol.35, pp.400-404, 2005 (SCI-Expanded)
- XX. **Effect of solvents on the preparation of lithium aluminate by sol-gel method**
Oksuzomer F., Koc S., Boz I., Gurkaynak M.
MATERIALS RESEARCH BULLETIN, vol.39, pp.715-724, 2004 (SCI-Expanded)
- XXI. **Tetradecanol Dehydrogenation over CuO catalyst supported on BaO, CaO and MgO**
BOZ İ., POZAN SOYLU G. S., GÜRKAYNAK M. A.
Reaction Kinetics Catalysis Letters, vol.83, no.1, pp.137-146, 2004 (SCI-Expanded)
- XXII. **Room temperature carbon monoxide oxidation over Pt/Co₂SnO₄ and Pt/(Co₃O₄+SnO₂) catalysts**
Gurdag G., Boz I., EBILLER S., Gurkaynak M. A.
REACTION KINETICS AND CATALYSIS LETTERS, vol.83, no.1, pp.47-54, 2004 (SCI-Expanded)
- XXIII. **Tetradecanol dehydrogenation over CuO catalyst supported on BaO, CaO and MgO**
Boz I., Pozan G., Gurkaynak M. A.
REACTION KINETICS AND CATALYSIS LETTERS, vol.83, no.1, pp.137-146, 2004 (SCI-Expanded)
- XXIV. **Competitive removal of Pb⁺², Cu⁺², Cd⁺² by cellulose graft copolymer**
GÜRKAYNAK M. A.
American Chemical Society, no.226, pp.512-0, 2003 (SCI-Expanded)

XXV. High-temperature degradation of polyacrylic acid in aqueous solution

GÜRKAYNAK M. A., Tubert F., Yang J., Matyas J., Spencer J., Gryte C.

JOURNAL OF POLYMER SCIENCE PART A-POLYMER CHEMISTRY, vol.34, no.3, pp.349-355, 1996 (SCI-Expanded)

Articles Published in Other Journals

I. Naftalinden Naftalin-2-Sülfonik Asit ve 2-Naftol Üretimi

TUĞTEPE M., ORBAY M., GÜRKAYNAK M. A., KUYULU A., ÖZGÜMÜŞ S. K., BABAN Z., ÇAĞATAY Ş.

Doğa TU Kim. Dergisi, vol.11, no.1, pp.32-43, 1987 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. Conversion of 5hydroxymethylfurfural (HMF) to 2,5 Dimethylfuran (DMF) using Co based catalysts

Esen M., Sezgin E., AKMAZ S., KOÇ S. N., GÜRKAYNAK M. A.

The Energy & Material Research Conference EMR2017, Lisbon, Portugal, 5 April - 07 July 2017, pp.6

II. The effect of ultrasound on the conversion of cellulose to 5hydroxymethylfurfural

Sezgin E., Esen M., AKMAZ S., KOÇ S. N., GÜRKAYNAK M. A.

The Energy & Material Research Conference EMR2017, Lisbon, Portugal, 5 April - 07 July 2017, pp.23

III. The Conversion Of Cellulose To 5-Hydroxymethyl Furfural (HMF) With Zeolite Catalysts

Sezgin E., Esen M., AKMAZ S., KOÇ S. N., GÜRKAYNAK M. A.

NCC6-The 6th Catalysis Conference, Bursa, Turkey, 27 - 30 April 2016, pp.113

IV. Investigation and Characterization of Ni/MgO Catalyst Prepared by Electrospinning Technique for the Partial Oxidation and Dry Reforming of Methane

AYGÜN B., ÖZDEMİR H., ÖKSÜZÖMER M. A. F., GÜRKAYNAK M. A.

NCC6-The 6th Catalysis Conference, Bursa, Turkey, 27 - 30 April 2016, pp.209

V. The Effects of Reaction Parameters on Mn/Na₂WO₄/SiO₂ Catalyst for Oxidative Coupling of Methane

ÖZDEMİR H., ÖKSÜZÖMER M. A. F., GÜRKAYNAK M. A.

NCC6-The 6th Catalysis Conference, Bursa, Turkey, 27 - 30 April 2016, pp.69

VI. An Efficient Heterogeneous Cr-Zeolite Catalyst For Glucose To 5-Hydroxymethylfurfural Conversion

Esen M., Sezgin E., AKMAZ S., KOÇ S. N., GÜRKAYNAK M. A.

NCC6-The 6th Catalysis Conference, Bursa, Turkey, 27 - 30 April 2016, pp.124

VII. Bio-Based UV Curable Coating Systems

DELİGÖZ H., AGİN Ç., GÜRKAYNAK M. A.

Paintİstanbul 2016 TURKCOAT, İstanbul, Turkey, 22 - 23 March 2016, pp.119-120

VIII. Investigation of Samaria Based Catalysts for Oxidative Coupling of Methane

GÜRKAYNAK M. A., ÖZDEMİR H., ÖKSÜZÖMER M. A. F.

10th european Congress of Chemical Engineering, Nice, France, 27 September - 01 October 2015, pp.1295

IX. Li/MgO Katalizörünün Metanın Oksidatif Birleşme Reaksiyonu için İncelenmesi: Operasyon Şartlarının Etkisi

ÖZDEMİR H., ÖKSÜZÖMER M. A. F., GÜRKAYNAK M. A.

11. Ulusal Kimya Mühendisliği Kongresi, Eskişehir, Turkey, 2 - 05 September 2014, pp.550-551

X. Preparation Of Graphene Nanosheets By Rapid Reduction Of Graphite Oxide With Various Metal Powders

Ağın Ç., DURMUŞ A., ERCAN N., GÜRKAYNAK M. A.

NanoTR-10, 10th Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 17 - 21 June 2014, pp.404

XI. Physical properties of thermoplastic polyurethane / reduced graphene oxide nanocomposite films

Ağın Ç., ERCAN N., DURMUŞ A., GÜRKAYNAK M. A.

AMWC 2013, Advanced Materials World Congress, İzmir, Turkey, 16 - 19 September 2013, pp.121

XII. Sm_{0.2-x}CaxCe_{0.80}(1.9 - 0.5x) Mixed Oxides as Solid Oxide Fuel Cell Electrolyte Materials

- GÜRKAYNAK M. A., ÖZDEMİR H., SARIBOĞA V., ÖKSÜZÖMER M. A.
10th NGCS (Natural Gas Conversion Symposium), Doha, Qatar, 2 - 07 March 2013, pp.155
- XIII. **Sm_{0,2}-xCaxCe_{0,8}O_y Mixed Oxides as Solid Oxide Fuel Cell Electrolyte Materials**
GÜRKAYNAK M. A., ÖZDEMİR H., Sarıboğa V., ÖKSÜZÖMER M. A. F.
The 10th Natural Gas Conversion Symposium, Qatar, pp.125
- XIV. • **Katı Oksit Yakıt Hücresi Uygulamaları için Ca-Sm-Ce Karışık Oksit Yapılarının Selüloz Yakma Tekniği ile Hazırlanması ve Karakterizasyonu**
SARIBOĞA V., ÖZDEMİR H., ÖKSÜZÖMER M. A., GÜRKAYNAK M. A.
10. Ulusal Kimya Mühendisliği Kongresi (UKMK-10), İstanbul, Turkey, 3 - 06 September 2012, pp.80
- XV. **METANIN KISMİ OKSİDASYON REAKSİYONU İÇİN Ni/MgAl₂O₄ KATALİZÖRÜNÜN KALSİNASYON SICAKLIĞININ ETKİSİNİN İNCELENMESİ**
ÖZDEMİR H., ÖKSÜZÖMER M. A., GÜRKAYNAK M. A.
Ulusal Kimya Mühendisliği Kongresi 10, İstanbul, Turkey, 1 - 04 August 2012, pp.44
- XVI. **Investigation of Ni/YSZ Active Layer for Cu Based Anodes for Direct Methane Solid Oxide Fuel Cells**
SARIBOĞA V., ÖKSÜZÖMER M. A., GÜRKAYNAK M. A.
EnCAMP (Energy Challenges for Advanced Materials and Processes: Harvesting, Storage and Efficient Utilization), Nevşehir, Turkey, 25 - 29 May 2011, pp.12
- XVII. **Doğrudan Metan Yakan Katı Oksit Yakıt Hücreleri için Değişik Anot Yapılarının İncelenmesi**
SARIBOĞA V., ÖKSÜZÖMER M. A., GÜRKAYNAK M. A.
, II. Ulusal Enerji Verimliliği Forumu ve Fuarı, İstanbul, Turkey, 13 - 14 January 2011, pp.120-126
- XVIII. **Metanın Kısmi Oksidasyon Reaksiyonu için Nikel Esaslı Katalizörlerin İncelenmesi**
ÖZDEMİR H., ÖKSÜZÖMER M. A., GÜRKAYNAK M. A., KOÇ S. N.
Ulusal Kimya Mühendisliği Kongresi 9, Ankara, Turkey, 22 - 25 June 2010, pp.60
- XIX. **Oleik Asidin Dimerleşme Reaksiyonu Kinetiğinin İncelenmesi**
KİRİŞ B., AKMAZ S., ALBAYRAK A. T., YAŞAR M., GÜRKAYNAK M. A.
9. Ulusal Kimya Mühendisliği Kongresi, Ankara, Turkey, 22 - 25 June 2010, pp.253-259
- XX. **Doğrudan Metan Yakan Katı Oksit Yakıt Hücreleri için Değişik Anot Yapılarının İncelenmesi**
SARIBOĞA V., ÖKSÜZÖMER M. A., KOÇ S. N., GÜRKAYNAK M. A.
UKMK9, Ankara, Turkey, 21 - 24 June 2010, pp.50-52
- XXI. **Doğrudan Metan Yakan Katı Oksit Hücresi (DM-SOFC) için Anot Katalizörlerinin Geliştirilmesi**
SARIBOĞA V., ÖKSÜZÖMER M. A., KOÇ S. N., GÜRKAYNAK M. A.
Üçüncü Ulusal Kataliz Kongresi, Zonguldak, Turkey, 28 April - 01 May 2010, pp.60
- XXII. **Metanın Kısmi Oksidasyon Reaksiyonu için Nikel Esaslı Katalizörlerin Sentezi ve Karakterizasyonu**
ÖZDEMİR H., ÖKSÜZÖMER M. A., GÜRKAYNAK M. A.
Üçüncü ulusal Kataliz Kongresi, Zonguldak, Turkey, 28 April - 01 May 2010, pp.29-30
- XXIII. **New poly(imide siloxane)-zeolite mixed matrix membranes: Synthesis, characterization and gas separation properties**
ŞAFAK BOROĞLU M., GÜRKAYNAK M. A.
EMCC-6th Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries, Turkey, 1 - 04 March 2010, pp.161
- XXIV. **The Preparation and Characterization of Ni Based Catalysts**
ÖZDEMİR H., ÖKSÜZÖMER M. A. F., KOÇ S. N., GÜRKAYNAK M. A.
International Conference on Nanomaterials and Nanosystems (NanoMats 2009), İstanbul, Turkey, 10 - 13 August 2009, pp.180
- XXV. **The preparation of Ni based catalysts for methane partial oxidation**
ÖZDEMİR H., ÖKSÜZÖMER M. A., GÜRKAYNAK M. A., KOÇ S. N.
5th Nanoscience and Nanotechnology Conference, Eskişehir, Turkey, 9 - 12 June 2009, pp.34
- XXVI. **New polyimide-siloxane membranes: Synthesis, characterization and gas separation properties**
ŞAFAK BOROĞLU M., GÜRKAYNAK M. A.
EMCC-5th Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries, Italy, 1 - 04 May 2008, pp.48

- XXVII. **Preparation of Sulfonated Polyimide as Proton Exchange Membranes for Fuel Cell Applications**
DELİGÖZ H., VATANSEVER S., PABUCCUOĞLU S. K., GÜRKAYNAK M. A.
Somer Symposium 1, Past, Present, Future, Chemical Engineering, Ankara, TURKEY, Turkey, 1 - 04 May 2007, pp.56
- XXVIII. **Preperation and Characterization of New Copolyimide Membranes with Amide Group in the Polyiimide Segments**
ŞAFAK BOROĞLU M., GÜRKAYNAK M. A.
SOMER Symposium, Turkey, 1 - 04 May 2007, pp.67
- XXIX. **"Characterizatin of Hydroxylapatite Reinforced Biocompatible Polymers**
ŞAHİNLER AYL A S., AYDIN İ., GÜRKAYNAK M. A., ÖKSÜZÖMER M. A.
7th International Fracture Conference,, Turkey, 1 - 04 October 2005, pp.642-648
- XXX. **Preparation and Structural Characterization of Copolyimide Membranes with 3,5-diaminobenzoic acid**
ŞAFAK BOROĞLU M., BOZ İ., GÜRKAYNAK M. A.
6th Advanced Polymers via Macromolecular Engineering APME 2005, Turkey, 1 - 04 August 2005, pp.42
- XXXI. **Hibrit Silika-Poliimid Kompozit Membranların İncelenmesi**
ŞAFAK BOROĞLU M., BOZ İ., GÜRKAYNAK M. A.
XVII. Ulusal Kimya Kongresi, İstanbul, Turkey, 1 - 04 September 2003, pp.526
- XXXII. **Poliüretan Önpolimer Üretimi ve Reaksiyon Kinetiği**
ERCAN N., İYİM T. B., KAŞGÖZ A., GÜRKAYNAK M. A.
Beşinci Ulusal Kimya Mühendisliği Kongresi, Ankara, Turkey
- XXXIII. **Poliüretan Önpolimer Eldesi ve Reaksiyon Kinetiği**
ERCAN N., KAŞGÖZ A., İYİM T. B., GÜRKAYNAK M. A.
5. Ulusal Kimya Mühendisliği Kongresi, Ankara, Turkey, 1 - 04 September 2002, pp.18-20

Other Publications

- I. **Doğrudan Metanol Yakıt Hücreleri (DMYH) İçin Tabakalı Kaplama (LbL) Yöntemi ile Polimer Elektrolitlerin Hazırlanması**
DELİGÖZ H., Yılmaztürk S., KARACA T., ÖZDEMİR H., KOÇ S. N., ÖKSÜZÖMER M. A., DURMUŞ A., GÜRKAYNAK M. A.
Other, pp.2, 2008
- II. **Miristik Asit ve İzopropil Alkolün Esterleşme Kinetiği**
YALÇINYUVA T., BOZ İ., DELİGÖZ H., GÜRKAYNAK M. A.
Other, pp.4, 1998

Supported Projects

ÖKSÜZÖMER M. A. F., DELİGÖZ H., GÜRKAYNAK M. A., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Metandan Katalitik Hidrojen Üretimi, 2008 - 2013

Scientific Refereeing

Project Supported by Higher Education Institutions, March 2012

Project Supported by Higher Education Institutions, March 2012

Project Supported by Higher Education Institutions, March 2012

Metrics

Publication: 61

Citation (WoS): 427

Citation (Scopus): 422

H-Index (WoS): 11

H-Index (Scopus): 11

Non Academic Experience

Other Public Institution, Tübitak, Teydeb Kimya Malzeme Metalurji Komitesi

Other Public Institution, Petkim Holding A.Ş.