Prof. Melek Mümine Erol Taygun

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Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği Anabilim Dalı, Turkey 1999 - 2006
Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği (Yl) (Tezli), Turkey 1996 - 1999
Undergraduate, Istanbul Technical University, Kimya-Metalurji Fakültesi, Kimya Mühendisliği Bölümü, Turkey 1992 - 1996

Foreign Languages

English

Dissertations

Doctorate, Glass, Glass-ceramic and Sintered Materials from Industrial Wastes, İstanbul Teknik Üniversitesi, Kimya Mühendisliği, Kimya Mühendisliği, 2006
Postgraduate, Uçucu Küllerin Cam-seramik Yapımında Kullanımı, İstanbul Teknik Üniversitesi, Kimya Mühendisliği, Kimya Mühendisliği, 1999

Research Areas

Chemical Engineering and Technology, Metallurgical and Materials Engineering, Material science and engineering, Glass Technology and Glass Ceramics, Biomaterials, Nanomaterials, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Kimya-Metalurji, Kimya Mühendisliği, 2012 - 2018
Assistant Professor, Istanbul Technical University, Kimya-Metalurji, Kimya Mühendisliği, 2009 - 2012
Research Assistant, Istanbul Technical University, Kimya-Metalurji, Kimya Mühendisliği, 1998 - 2009

Academic and Administrative Experience

Academic and Administrative Experience

İstanbul Teknik Üniversitesi, Kimya-Metalurji Fakültesi, Biyomühendislik Bölümü, 2017 - Continues
İstanbul Teknik Üniversitesi, Kimya-Metalurji Fakültesi, Biyomühendislik Bölümü, 2012 - 2016

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Hypericum perforatum Oil and Vitamin A Palmitate-Loaded Gelatin Nanofibers Cross-Linked by Tannic Acid as Wound Dressings**
Aktürk A., Kasikci F. N., Dikmetaş D. N., Karbancıoğlu Güler H. F., Erol-Taygun M. M.
ACS Omega, vol.8, no.26, pp.24023-24031, 2023 (SCI-Expanded)

II. **Antibacterial Borosilicate Glass and Glass Ceramic Materials Doped with ZnO for Usage in the Pharmaceutical Industry**
Demirel B., Erol Taygun M. M.
ACS Omega, vol.8, no.21, pp.18735-18742, 2023 (SCI-Expanded)

III. **Photocatalytic and Antimicrobial Properties of Electrospun TiO2-SiO2-Al2O3-ZrO2-CaO-CeO2 Ceramic Membranes**
Yerli Soylu N., Soylu A., Dikmetaş D. N., Karbancıoğlu Güler H. F., Kucukbayrak S., Erol Taygun M. M.
ACS Omega, vol.8, no.12, pp.10836-10850, 2023 (SCI-Expanded)

IV. **Zinc Oxide-Doped Antibacterial Soda Lime Glass Produced as a Glass Container**
Demirel B., Erol Taygun M. M.
ACS Omega, vol.8, no.10, pp.9257-9264, 2023 (SCI-Expanded)

V. **TiO2 nanocomposite ceramics doped with silver nanoparticles for the photocatalytic degradation of methylene blue and antibacterial activity against Escherichia coli**
Yerli Soylu N., Aktürk A., Kabak Ö., Erol-Taygun M., Karbancıoğlu Güler H. F., Erol Taygun M. M.
Engineering Science and Technology, an International Journal, vol.35, 2022 (SCI-Expanded)

VI. **Optimization and characterization of poly(epsilon-caprolactone) nanofiber mats doped with bioactive glass and copper metal nanoparticles**
Aktürk A., Erol-Taygun M. M., Göller G., Kucukbayrak S.
CHEMICAL PAPERS, vol.75, no.11, pp.5929-5943, 2021 (SCI-Expanded)

VII. **Optimization of the electrospinning process variables for gelatin/silver nanoparticles/bioactive glass nanocomposites for bone tissue engineering**
Akturk A., Erol Taygun M. M., Göller G.
Polymer Composites, vol.41, no.6, pp.2411-2425, 2020 (SCI-Expanded)

VIII. **Bioactıve Glass-Polymer Nanocomposites for Bone Tıssue Regeneration Applicatıons: A Revıew**
Erol-Taygun M. M., Unalan I., Idris M. I. B., Mano J. F., Boccaccini A. R.
Advanced Engineering Materials, vol.21, no.8, 2019 (SCI-Expanded)

IX. **Synthesis and antifungal activity of soluble starch and sodium alginate capped copper nanoparticles**
Aktürk A., Guler F. K., Taygun M. M., Göller G., Kucukbayrak S.
Materials Research Express, vol.6, no.12, 2019 (SCI-Expanded)

X. **Crystallization behavior of 45S5 bioactive glass modified by therapeutic ions**
Taygun M. M., Hocaoglu V.
INTERNATIONAL JOURNAL OF APPLIED GLASS SCIENCE, vol.9, no.1, pp.62-69, 2018 (SCI-Expanded)

XI. **Fabrication of nanocomposite mat through incorporating bioactive glass particles into gelatin/poly(ε-caprolactone) nanofibers by using Box–Behnken design**
Gonen S., TAYGUN M. M., AKTURK A., KUCUKBAYRAK S.
Materials Science and Engineering C, vol.67, pp.684-693, 2016 (SCI-Expanded)

XII. **Fabrication of bioactive glass containing nanocomposite fiber mats for bone tissue engineering applications**
Gonen S., TAYGUN M. M., KUCUKBAYRAK S.
Composite Structures, vol.138, pp.96-106, 2016 (SCI-Expanded)

XIII. **Evaluation of the factors influencing the resultant diameter of the electrospun gelatin/sodium**

alginate nanofibers via Box-Behnken design
Gonen S., TAYGUN M. M., KUCUKBAYRAK S.
Materials Science and Engineering C, vol.58, pp.709-723, 2016 (SCI-Expanded)

XIV. **Experimental and statistical studies on the preparation of activated carbons from chestnut shell**
Döşemen Y., Erol Taygun M. M., Açma H., Küçükbayrak S.
Advanced Science Letters, vol.19, no.11, pp.3361-3365, 2013 (SCI-Expanded)

XV. **Influence of particle size on the crystallization kinetics of glasses produced from waste materials**
Erol M. M., KUCUKBAYRAK S., ERSOY-MERICBOYU A.
Journal of Non-Crystalline Solids, vol.357, no.1, pp.211-219, 2011 (SCI-Expanded)

XVI. **Calorific value estimation of biomass from their proximate analyses data**
Erol M., HAYKIRI-ACMA H., KUCUKBAYRAK S.
Renewable Energy, vol.35, no.1, pp.170-173, 2010 (SCI-Expanded)

XVII. **The influence of the binder on the properties of sintered glass-ceramics produced from industrial wastes**
Erol M. M., KUCUKBAYRAK S., ERSOY-MERICBOYU A.
Ceramics International, vol.35, no.7, pp.2609-2617, 2009 (SCI-Expanded)

XVIII. **The application of differential thermal analysis to the study of isothermal and non-isothermal crystallization kinetics of coal fly ash based glasses**
Erol M. M., KUCUKBAYRAK S., ERSOY-MERICBOYU A.
Journal of Non-Crystalline Solids, vol.355, no.9, pp.569-576, 2009 (SCI-Expanded)

XIX. **Characterization of sintered coal fly ashes**
Erol M. M., KUCUKBAYRAK S., ERSOY-MERICBOYU A.
Fuel, vol.87, no.7, pp.1334-1340, 2008 (SCI-Expanded)

XX. **Comparison of the properties of glass, glass-ceramic and ceramic materials produced from coal fly ash**
Erol M. M., KUCUKBAYRAK S., ERSOY-MERICBOYU A.
Journal of Hazardous Materials, vol.153, no.1-2, pp.418-425, 2008 (SCI-Expanded)

XXI. **Production of glass-ceramics obtained from industrial wastes by means of controlled nucleation and crystallization**
Erol M. M., KUCUKBAYRAK S., ERSOY-MERICBOYU A.
Chemical Engineering Journal, vol.132, no.1-3, pp.335-343, 2007 (SCI-Expanded)

XXII. **Characterization of coal fly ash for possible utilization in glass production**
Erol M. M., KUCUKBAYRAK S., ERSOY-MERICBOYU A.
Fuel, vol.86, no.5-6, pp.706-714, 2007 (SCI-Expanded)

XXIII. **Removal of Cu2+ and Pb2+ in aqueous solutions by fly ash**
Erol M. M., Kucukbayrak S., Ersoy-Mericboyu A., Ulubas T.
Energy Conversion and Management, vol.46, no.7-8, pp.1319-1331, 2005 (SCI-Expanded)

XXIV. **Characterization investigations of glass-ceramics developed from Seyitömer thermal power plant fly ash**
Erol M., DEMIRLER U., KUCUKBAYRAK S., ERSOY-MERICBOYU A., Ovecoglu M. L.
Journal of the European Ceramic Society, vol.23, no.5, pp.757-763, 2003 (SCI-Expanded)

XXV. **Crystallization behaviour of glasses produced from fly ash**
Erol M., KUCUKBAYRAK S., ERSOY-MERICBOYU A., Ovecoglu M. L.
Journal of the European Ceramic Society, vol.21, no.16, pp.2835-2841, 2001 (SCI-Expanded)

XXVI. **Characterization of a glass-ceramic produced from thermal power plant fly ashes**
Erol M., GENC A., Ovecoglu M. L., YUCELEN E., KUCUKBAYRAK S., TAPTIK Y.
Journal of the European Ceramic Society, vol.20, no.12, pp.2209-2214, 2000 (SCI-Expanded)

Articles Published in Other Journals

I. **Bioactivity of glass and glass-Seramic in the system SiO2-CaO-Al2O3-P2O5-Na2O-MgO-CaF2**
Erol M. M., Haykiri-Acma H., Özyuğuran A., Kükürtçü B., Küçükbayrak S.
Advanced Science Letters, vol.19, no.11, pp.3328-3332, 2013 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

I. **Polymer/glass nanocomposite fiber as an insulating material**
Taygun M. M., Akkaya I., Gonen S. O., Kucukbayrak S.
6th International Advances in Applied Physics and Materials Science Congress and Exhibition, APMAS 2016, İstanbul, Turkey, 1 - 03 June 2016, vol.1809
II. **Fabrication and characterization of copper doped polymer/bioactive glass composite scaffolds**
Yerli N., Taygun M. M., Yu¨rektu¨rk Y., Ku¨çu¨kbayrak S.
Proceedings of the World Congress on Recent Advances in Nanotechnology, RAN 2016, Prague, Czech Republic, 1 - 02 April 2016
III. **Investigation of strontium effect on the bioactive behavior of glasses in the system SiO2-CaO-P2O5-Na2O-SrO**
Erol M. M., Özyuguran A., Özarpat Ö., Küçükbayrak S.
23rd Symposium and Annual Meeting of International Society for Ceramics in Medicine, ISCM 2011, İstanbul, Turkey, 6 - 09 November 2011, vol.493-494, pp.68-73

Supported Projects

Erol Taygun M. M., Çalışır K., Project Supported by Higher Education Institutions, Pamuklu Kumaş Yıkama Parametrelerinin Renk Geçişi Üzerine Etkisinin İncelenmesi, 2019 - 2019
Erol Taygun M. M., Aktaş B., Project Supported by Higher Education Institutions, Bal renkli camın farklı katkılar kullanılarak renksizleştirilmesi, 2018 - 2019
Erol Taygun M. M., Yerli N., Aktürk A., Project Supported by Higher Education Institutions, Fotokatalitik etkiye sahip seramik nanofiber membranların geliştirilmesi ve filtrasyon özelliklerinin belirlenmesi, 2018 - 2019
Erol Taygun M. M., Project Supported by Higher Education Institutions, Investigation of Therapeutic Ions From Sr and Cu- Doped Glass Polymer Composite Scaffolds, 2013 - 2018
Erol Taygun M. M., Project Supported by Higher Education Institutions, Experimental and Statistical Studies on the Preparation of Activited Carbons from Chestnut Shell, 2012 - 2018
Erol Taygun M. M., Project Supported by Higher Education Institutions, Bone Tissue Engineering Scaffolds Using Strontium Containing Bioactive Glasses, 2011 - 2018
Erol Taygun M. M., Project Supported by Higher Education Institutions, EVOLUTİON OF THERMAL KPOWER FLY ASH FORT HE UTİLİZATİON İN CEREMAİC MATERİAL, 2009 - 2018
Erol Taygun M. M., Project Supported by Higher Education Institutions, Elektro-Spinning Yönetmi Kullanılarak Nanokompozit Yapı İskelesi Üretimi, 2013 - 2017
Erol Taygun M. M., Project Supported by Higher Education Institutions, YÜKSEK SICAKLIKTA ISI YALITIM UYGULAMALARINA YÖNELİK ÜSTÜN PERFORMANSLI AEROJEL ŞİLTE SENTEZİ VE KARAKTERİZASYONU, 2016 - 2016
Erol Taygun M. M., Project Supported by Higher Education Institutions, Bakır ve Stronsiyum Katkılı Biyoaktif CAm Numunelerinin Kristalizasyon Kinetiğinin İncelenmesi, 2012 - 2015
Erol Taygun M. M., Project Supported by Higher Education Institutions, Bitkisel Atıklardan Mikrodalga Uygulaması İle Aktif KArbon Üretimi, 2008 - 2008

Scientific Consultations

Şişecam, Scientific Consultancy, Istanbul Technical University, Kimya-Metalurji, Kimya Mühendisliği, Turkey, 2015 -

Continues

Metrics

Publication: 106
Citation (WoS): 1747
Citation (Scopus): 2028
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H-Index (Scopus): 25