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Personal Information

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International Researcher IDs

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Education Information

Doctorate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Kimya Mühendisliği (Dr), Turkey 2012 - 2017
Postgraduate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Kimya Mühendisliği (YI) (Tezli), Turkey 2010 - 2012

Undergraduate, Istanbul University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Turkey 2005 - 2009

Dissertations

Doctorate, Ayçiçeği Küspesinden Karbon Moleküler Elek Eldesi ve Gaz Adsorpsiyon Potansiyelinin Belirlenmesi, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Kimya Mühendisliği (Dr), 2017

Postgraduate, Gürgeç ağacı kabuğunun (Carpinus betulus L.) enerji kaynağı olarak değerlendirilmesi, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Kimya Mühendisliği (YI) (Tezli), 2012

Research Areas

Basic Operations and Thermodynamics

Academic Titles / Tasks

Research Assistant PhD, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, KİMYA MÜHENDİSLİĞİ BÖLÜMÜ, 2017 - Continues

Research Assistant, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, KİMYA MÜHENDİSLİĞİ BÖLÜMÜ, 2010 - 2017

Courses

Electrochemical Sensors, Postgraduate

Mühendislik Araştırmalarına Hazırlık, Undergraduate

FUNDAMENTALS OF OCCUPATIONAL HEALTH AND SAFETY(A), Undergraduate

Kimya Mühendisliğinde Deney Tasarımı Araştırmaları, Undergraduate

Kimya Mühendisliğinde Deney Tasarımı, Undergraduate

Advising Theses

Demiral H., Morali U., Biyokütleden Elektrokimyasal Kapasitörler İçin Gözenekli Karbon Elektrot Üretimi, Postgraduate, C.DOĞAN(Student), 2020

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Improving battery safety by utilizing composite phase change material to delay the occurrence of thermal runaway event**
Talele V., Morali U., Khaboshan H. N., Patil M. S., Panchal S., Fraser R., Fowler M.
INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.155, pp.107527, 2024 (SCI-Expanded)
- II. **Influence of convective heat transfer coefficients on thermal behaviour of a lithium-ion cell: a numerical study**
MORALI U.
Turkish Journal of Chemistry, vol.48, no.1, pp.128-136, 2024 (SCI-Expanded)
- III. **Nanofluid-based cooling of prismatic lithium-ion battery packs: an integrated numerical and statistical approach**
MORALI U., YETİK Ö., Karakoc T. H.
Journal of Thermal Analysis and Calorimetry, vol.149, no.2, pp.799-811, 2024 (SCI-Expanded)
- IV. **A numerical and statistical study to determine the effect of thermophysical properties of phase change material for lithium-ion battery thermal management**
MORALI U.
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, 2023 (SCI-Expanded)
- V. **Effect of binder on the electrochemical performance of activated carbon electrodes obtained from waste hazelnut shells: Comparison of PTFE and PVDF**
Ozpinar P., Dogan C., Demiral H., Morali U., Erol S., Yıldız D., Şamdan C., Demiral İ.
DIAMOND AND RELATED MATERIALS, vol.137, 2023 (SCI-Expanded)
- VI. **Optimal battery preheating in critical subzero ambient condition using different preheating arrangement and advance pyro linear thermal insulation**
Talele V., Morali U., Patil M. S., Panchal S., Mathew K.
THERMAL SCIENCE AND ENGINEERING PROGRESS, vol.42, 2023 (SCI-Expanded)
- VII. **Computational modelling and statistical evaluation of thermal runaway safety regime response on lithium-ion battery with different cathodic chemistry and varying ambient condition**
Talele V., MORALI U., Patil M. S., Panchal S., Fraser R., Fowler M., Thorat P., Gokhale Y. P.
International Communications in Heat and Mass Transfer, vol.146, 2023 (SCI-Expanded)
- VIII. **Computational modeling and statistical evaluation of thermal behavior of cylindrical lithium-ion battery**
MORALI U.
JOURNAL OF ENERGY STORAGE, vol.55, 2022 (SCI-Expanded)
- IX. **Activated carbons prepared from hazelnut shell waste by phosphoric acid activation for supercapacitor electrode applications and comprehensive electrochemical analysis**
Ozpinar P., Dogan C., Demiral H., Morali U., Erol S., Şamdan C., Yıldız D., Demiral İ.
Renewable Energy, vol.189, pp.535-548, 2022 (SCI-Expanded)
- X. **A numerical and statistical implementation of a thermal model for a lithium-ion battery**
MORALI U.
ENERGY, vol.240, 2022 (SCI-Expanded)
- XI. **Parameter effect quantification for a phase change material-based lithium-ion battery thermal management system**
MORALI U.
TURKISH JOURNAL OF CHEMISTRY, vol.46, no.5, pp.1620-1631, 2022 (SCI-Expanded)

- XII. **Investigation of electrochemical behavior of potassium ferricyanide/ferrocyanide redox probes on screen printed carbon electrode through cyclic voltammetry and electrochemical impedance spectroscopy**
Koç Y., Morali U., Erol S., Avci H.
Turkish Journal Of Chemistry, vol.45, no.6, pp.1895-1915, 2021 (SCI-Expanded)
- XIII. **Investigation of Simultaneous Influences of Significant Charging Factors on Lithium-Ion Batteries and Identifying Interaction Effects**
Morali U.
ENERGY TECHNOLOGY, vol.9, no.5, 2021 (SCI-Expanded)
- XIV. **Electrochemical Investigation of Gold Based Screen Printed Electrodes: An Application for a Seafood Toxin Detection**
Koc Y., Morali U., Erol S., Avci H.
Electroanalysis, vol.33, no.4, pp.1033-1048, 2021 (SCI-Expanded)
- XV. **Synergistic influence of charge conditions on electrochemical impedance response of LiNiMnCoO₂/C coin cells - Complementary statistical analysis**
MORALI U.
Journal of Energy Storage, vol.32, 2020 (SCI-Expanded)
- XVI. **Decellularized inner body membranes for tissue engineering: a review**
Inci I., Norouz Dizaji A., Ozel C., MORALI U., Dogan Guzel F., Avci H.
JOURNAL OF BIOMATERIALS SCIENCE-POLYMER EDITION, vol.31, no.10, pp.1287-1368, 2020 (SCI-Expanded)
- XVII. **Preparation of new carbon molecular sieves for optimized carbon dioxide adsorption and product yield**
MORALI U., DEMİRAL H., ŞENSÖZ S.
NEW CARBON MATERIALS, vol.35, no.3, pp.209-218, 2020 (SCI-Expanded)
- XVIII. **Analysis of electrochemical impedance spectroscopy response for commercial lithium-ion batteries: modeling of equivalent circuit elements**
MORALI U., EROL S.
TURKISH JOURNAL OF CHEMISTRY, vol.44, no.3, pp.602-613, 2020 (SCI-Expanded)
- XIX. **Electrochemical impedance analysis of 18650 lithium-ion and 6HR61 nickel-metal hydride rechargeable batteries**
Morali U., Erol S.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.1, pp.297-309, 2020 (SCI-Expanded)
- XX. **Synthesis of carbon molecular sieve for carbon dioxide adsorption: Chemical vapor deposition combined with Taguchi design of experiment method**
MORALI U., DEMİRAL H., ŞENSÖZ S.
POWDER TECHNOLOGY, vol.355, pp.716-726, 2019 (SCI-Expanded)
- XXI. **Optimization of activated carbon production from sunflower seed extracted meal: Taguchi design of experiment approach and analysis of variance**
MORALI U., DEMİRAL H., ŞENSÖZ S.
JOURNAL OF CLEANER PRODUCTION, vol.189, pp.602-611, 2018 (SCI-Expanded)
- XXII. **Pyrolysis of hornbeam (Carpinus betulus L.) sawdust: Characterization of bio-oil and bio-char**
MORALI U., Yavuzel N., Sensoz S.
BIORESOURCE TECHNOLOGY, vol.221, pp.682-685, 2016 (SCI-Expanded)
- XXIII. **Pyrolysis of hornbeam shell (Carpinus betulus L.) in a fixed bed reactor: Characterization of bio-oil and bio-char**
MORALI U., Sensoz S.
FUEL, vol.150, pp.672-678, 2015 (SCI-Expanded)

Articles Published in Other Journals

- I. **Computational study on thermal management for an air-cooled lithium-ion battery**
MORALI U.
Energy Storage, vol.6, no.1, 2024 (ESCI)
- II. **A numerical study of thermal management of lithium-ion battery with nanofluid**
Yetik Ö., Moralı U., Karakoç T. H.
ENERGY, vol.284, pp.129295, 2023 (Peer-Reviewed Journal)
- III. **Battery Thermal Runaway Preventive Time Delay Strategy Using Different Melting Point Phase Change Materials**
Talele V., Patil M. S., MORALI U., Panchal S., Fraser R., Fowler M., Thorat P.
SAE INTERNATIONAL JOURNAL OF ELECTRIFIED VEHICLES, vol.13, no.3, pp.321-342, 2023 (ESCI)
- IV. **Investigation of Open Circuit Potential of Lithium-Ion Battery by The Taguchi Design**
MORALI U.
International Journal of Automotive Science And Technology, vol.5, no.2, pp.126-130, 2021 (Peer-Reviewed Journal)
- V. **Influence of charge conditions on battery dynamics of a commercial lithium-ion cell**
MORALI U.
Hacettepe Journal of Biology and Chemistry, vol.48, no.3, pp.203-210, 2020 (Peer-Reviewed Journal)
- VI. **The Comparison of Electrochemical Impedance Behaviors of Lithium-Ion and Nickel-Metal Hydride Batteries at Different State-of-Charge Conditions**
MORALI U., EROL S.
Journal of Engineering and Architecture Faculty of Eskisehir Osmangazi University, vol.28, no.1, pp.1-8, 2020 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **The effect of convective heat transfer coefficient on a 26650 cylindrical lithium-ion battery thermal behavior: A computational study**
Morali U.
7th International Eurasian Conference on Biological and Chemical Sciences, Ankara, Turkey, 2 - 04 October 2024, pp.48
- II. **Computational Investigation of the Maximum Battery Temperature of a Commercially Available Lithium Ion Battery**
Çanak B., Moralı U., Demiral H.
VII. International Halich Congress on Multidisciplinary Scientific Research, İstanbul, Turkey, 23 - 25 January 2024, pp.319
- III. **A computational study of the heat transfer coefficient for lithium-ion battery temperature**
Morali U.
International Symposium on Aircraft Technology, MRO and Operations, Belgrade, Serbia, 14 - 16 September 2022, pp.1-5
- IV. **Effect of phase change material on thermal behavior of a lithium-ion battery**
Morali U.
International Symposium on Electric Aviation and Autonomous Systems, Eskişehir, Turkey, 16 - 18 December 2021, pp.1-5
- V. **Effect of phase change material dimension on maximum temperature of a lithium-ion battery**
MORALI U.
International Symposium On Sustainable Aviation, Thailand, 25 November 2021
- VI. **Thermal Study of Cylindrical Lithium-Ion Battery At Different Discharge Rates**
Morali U.

International Symposium on Unmanned Systems and the Defense Industry, Washington, United States Of America, 26 - 28 October 2021, pp.1-6

- VII. **Evaluation of Electrode Properties of Activated Carbon Produced from Biomass Waste**
ÖZPINAR P., DOĞAN C., MORALI U., ŞAMDAN C., YILDIZ D., EROL S., DEMİRAL İ., DEMİRAL H.
3rd Bioenergy Studies Symposium, Turkey, 20 May 2021
- VIII. **Ekran Baskılı Altın Elektrot Yüzeyine Altın Nanopartikül Modifikasyonu ve Elektrokimyasal Empedans Spektroskopisi Yöntemi İle İncelenmesi**
KOÇ Y., MORALI U., AVCI H.
14. Ulusal Kimya Mühendisliği Kongresi, Turkey, 10 June 2021
- IX. **Lityum iyon pili için pil potansiyeli ve ortam sıcaklığının lityum iyonlarının elektrot içerisindeki difüzyon davranışına etkisi**
MORALI U.
14. Ulusal Kimya Mühendisliği Kongresi, Turkey, 10 June 2021
- X. **Effect of Ambient Temperature on the Ohmic Resistance of Lithium-Ion Battery**
Morali U.
International Symposium of Scientific Research and Innovative Studies, Balıkesir, Turkey, 22 - 25 February 2021
- XI. **Simultaneous Responses of Lithium-Ion Battery Parameters to the Charge Conditions - Electrochemical Impedance Spectroscopy Analysis, Mathematical Modeling, And Statistical Analysis**
MORALI U.
International Symposium on Electric Aviation and Autonomous Systems, 22 - 24 September 2020
- XII. **Çeşitli Redoks Problemlerinin Ekran Baskılı Karbon Elektrodun Elektrokimyasal Davranışı Üzerindeki Etkisinin Dönüşümlü Voltametri Yöntemi ile İncelenmesi**
KOÇ Y., MORALI U., EROL S., AVCI H.
32. Ulusal Kimya Kongresi, Turkey, 17 - 19 September 2020
- XIII. **Impedance Response of Titanium-Cadmium Plated Steel Used in Aircrafts**
EROL S., YENER S., MORALI U., DEMİRAL H.
International Symposium on Aircraft Technology, MRO & Operations 2020, Ukraine, 22 - 24 September 2020
- XIV. **A Statistical Design Approach for Impedance Spectroscopy of Li-ion Battery**
EROL S., MORALI U.
71st Annual Meeting of International Society of Electrochemical, 31 August - 01 September 2020
- XV. **Investigation of immobilization process of screen printed carbon electrode for an advanced biosensor: A detailed characterization**
Koc Y., Morali U., Erol S., Avcı H.
IV. International Scientific and Vocational Studies Congress – Engineering, Ankara, Turkey, 7 - 10 November 2019, pp.174-177
- XVI. **Developing Biosensors for Food Safety Analysis**
AVCI H., ANIL H., KOÇ Y., MORALI U., EROL S.
4th International Congress on Biosensors, Çanakkale, Turkey, 8 - 11 July 2019
- XVII. **Electrochemical impedance spectroscopy and equivalent circuit modeling of commercial 18650 lithium-ion cell**
MORALI U., EROL S.
1st International Eurasian Conference on Science, Engineering and Technology, Ankara, Turkey, 22 - 23 November 2018
- XVIII. **Impedance Analysis of poly(N-isopropylmethacrylamide) as a Water Soluble Polymer**
EROL S., MORALI U., SARI L., ŞÖLENER M.
Uluslararası Katılımlı VII. Polimer Bilim ve Teknoloji Kongresi, 9 - 12 September 2018
- XIX. **Preparation and N₂ CO₂ and CH₄ Adsorption of Carbon Molecular Sieve Derived From Chestnut Shell By Chemical Vapor Deposition**
DEMİRAL H., DEMİRAL İ., MORALI U., AYDIN ŞAMDAN C.
7th International Conference on Advanced Technologies, Antalya, Turkey, 28 April - 01 May 2018
- XX. **Preparation of high-surface area activated carbons from sunflower seed extracted meal seed by**

ZnCl₂ activation using Taguchi robust product design

MORALI U., DEMİRAL H., ŞENSÖZ S.

International Congress on Chemistry and Materials Science, Ankara, Turkey, 5 - 07 October 2017

XXI. Pyrolysis kinetics of hornbeam shell (*Carpinus betulus*L.) residues by TGA

MORALI U., ŞENSÖZ S.

International Congress on Chemistry and Materials Science, Ankara, Turkey, 5 - 07 October 2017

XXII. Effect of pyrolysis temperature on characteristics of biochars obtained from slow pyrolysis of hornbeam sawdust

MORALI U., ŞENSÖZ S.

The International Conference on Engineering and Natural Sciences, Saraybosna, Bosnia And Herzegovina, 24 - 28 May 2016

XXIII. Production of the bio oil by slow pyrolysis of hornbeam sawdust

MORALI U., ŞENSÖZ S.

The International Conference on Engineering and Natural Sciences, Saraybosna, Bosnia And Herzegovina, 24 - 28 May 2016

XXIV. Gürgeç Ağacı Kabuğunun *Carpinus betulus* L. Piroliziyle Elde Edilen Katı Ürünlerin İncelenmesi

MORALI U., ŞENSÖZ S., SEDEF F., AYDIN H., KOÇAK G.

11.Ulusal Kimya Mühendisliği Kongresi, Turkey, 2 - 05 September 2014

XXV. Fixed Bed Pyrolysis of Hornbeam (*Carpinus betulus* L.) Shell

ŞENSÖZ S., MORALI U.

International Conference on Recycling and Reuse 2012, İstanbul, Turkey, 4 - 06 June 2012

Supported Projects

MORALI U., EROL S., Project Supported by Higher Education Institutions, Biyokütleden Yüksek Performanslı

Elektrokimyasal Kapasitörler İçin Gözenekli Karbon Elektrot Üretimi, 2020 - Continues

Avcı H., Moralı U., Erol S., Project Supported by Higher Education Institutions, Geliştirilecek Yüksek Hassasiyetteki

Elektrokimyasal Sensör Sistemi ile Ülkemiz Deniz Canlılarında Domoik Asidin ve Deniz Kirliliğinin İncelenmesi, 2018 - 2021

Erol S., Moralı U., Project Supported by Higher Education Institutions, Yerli Elektrikli Araçlar İçin Bataryaların

Potansiyostat/Galvanostat Cihazı ile Geliştirilmesi ve Modellenmesi, 2017 - 2018

ŞENSÖZ S., MORALI U., Project Supported by Higher Education Institutions, Biyokütleden Karbon Moleküler Elek Eldesi ve Gaz Adsorpsiyon Potansiyelinin Belirlenmesi, 2016 - 2018

MORALI U., ŞENSÖZ S., DEMİRAL H., Project Supported by Higher Education Institutions, Biyokütleden c moleküler elek eldesi ve gaz adsorpsiyon potansiyelinin belirlenmesi, 2015 - 2018

Metrics

Publication: 54

Citation (WoS): 375

Citation (Scopus): 478

H-Index (WoS): 9

H-Index (Scopus): 10