

Assoc. Prof. SALİM EROL

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: D-6982-2017

ScopusID: 56307858000

Yoksis Researcher ID: 239043

Education Information

Doctorate, University of Florida, Engineering, Chemical Engineering, United States Of America 2011 - 2015

Postgraduate, University of Florida, Engineering, Chemical Engineering, United States Of America 2009 - 2011

Postgraduate, Marmara University, Faculty Of Engineering, Chemical Engineering, Turkey 2006 - 2008

Undergraduate, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Kimya Mühendisliği Bölümü, Turkey 2002 - 2006

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Electrochemical Impedance Analysis and Modeling of Lithium Cobalt Oxide/Carbon Batteries, University of Florida, Kimya Mühendisliği, 2015

Postgraduate, Electrochemical Impedance Analysis of Lithium Cobalt Oxide Batteries, University Of Florida {Florida}, Kimya Mühendisliği, 2011

Research Areas

Process and Reactor Design

Academic Titles / Tasks

Associate Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, KİMYA MÜHENDİSLİĞİ BÖLÜMÜ, 2023 - Continues

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

Assistant Professor, American University of the Middle East, College of Engineering and Technology, Chemical

Engineering, 2019 - 2021

Research Assistant PhD, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, KİMYA MÜHENDİSLİĞİ BÖLÜMÜ, 2015 - 2017

Researcher, University of Kentucky, Engineering, Chemical And Materials Engineering, 2015 - 2015

Research Assistant, University of Florida, Engineering, Chemical Engineering, 2010 - 2015

Courses

ENERJİ DEPOLAMA MALZEMELERİ ARAŞTIRMALARI, Undergraduate, 2017 - 2018

FUNDAMENTALS OF OCCUPATIONAL HEALTH AND SAFETY, Undergraduate, 2017 - 2018

Proje ve Risk Yönetimi, Undergraduate, 2017 - 2018, 2016 - 2017

İLERİ MÜHENDİSLİK MATEMATİĞİ, Postgraduate, 2017 - 2018

Kimya Mühendisliği Laboratuvarı I, Undergraduate, 2017 - 2018

KİMYA MÜHENDİSLİĞİ LABORATUVARI II, Undergraduate, 2017 - 2018

Termodinamik II, Undergraduate, 2017 - 2018

ENDÜSTRİYEL ELEKTROKİMYA, Undergraduate, 2017 - 2018

ELEKTROKİMYA MÜHENDİSLİĞİ TEMELLERİ, Postgraduate, 2017 - 2018

ENERJİ DEPOLAMA SİSTEMLERİ, Postgraduate, 2017 - 2018

İş Sağlığı ve Güvenliği Temelleri, Undergraduate, 2017 - 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **State of charge and temperature-dependent impedance spectra regeneration of lithium-ion battery by duplex learning modeling**
TEMİZ S., EROL S., Kurban H., Dalkilic M. M.
JOURNAL OF ENERGY STORAGE, vol.64, 2023 (SCI-Expanded)
- II. **Enhanced hydrogen production via methanolysis and energy storage on novel poplar sawdust-based biomass-derived activated carbon catalyst**
KAYA Ş., Saka C., YILDIZ D., EROL S., Ulaş B., Demir I., DEMİR KIVRAK H.
JOURNAL OF APPLIED ELECTROCHEMISTRY, vol.53, no.8, pp.1643-1655, 2023 (SCI-Expanded)
- III. **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)
- IV. **A Statistical Design Approach on Electrochemical Impedance Spectroscopy of NMC Li-Ion Battery**
Erol S.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.169, no.10, 2022 (SCI-Expanded)
- V. **Regeneration of Lithium-ion battery impedance using a novel machine learning framework and minimal empirical data**
Temiz S., Kurban H., Erol S., Dalkilic M. M.
JOURNAL OF ENERGY STORAGE, vol.52, 2022 (SCI-Expanded)
- VI. **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)
- VII. **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)

- VIII. **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)
- IX. **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)
- X. **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)
- XI. **Recent advances in organ-on-a-chip technologies and future challenges: a review**
AVCI H., Dogan Guzel F., EROL S., Akpek A.
TURKISH JOURNAL OF CHEMISTRY, vol.42, no.3, pp.587-610, 2018 (SCI-Expanded)
- XII. **A fibrous solid electrolyte for lithium-ion batteries**
Erol S.
BULGARIAN CHEMICAL COMMUNICATIONS, vol.49, pp.128-132, 2017 (SCI-Expanded)
- XIII. **The influence of anomalous diffusion on the impedance response of LiCoO₂ vertical bar C batteries**
Erol S., Orazem M. E.
JOURNAL OF POWER SOURCES, vol.293, pp.57-64, 2015 (SCI-Expanded)
- XIV. **Influence of overcharge and over-discharge on the impedance response of LiCoO₂ vertical bar C batteries**
Erol S., Orazem M. E., Muller R. P.
JOURNAL OF POWER SOURCES, vol.270, pp.92-100, 2014 (SCI-Expanded)

Articles Published in Other Journals

- I. **Data on Machine Learning regenerated Lithium-ion battery impedance**
Temiz S., Kurban H., Erol S., Dalkılıç M. M.
DATA IN BRIEF, vol.45, 2022 (ESCI)
- II. **Electrochemical Impedance Spectroscopy Response of Nickel-Metal Hydride Battery to Overcharge Condition**
İnce E., Erol S.
International Journal of Multidisciplinary Studies and Innovative Technologies, vol.6, no.2, pp.218-222, 2022 (Peer-Reviewed Journal)
- III. **Lithium-ion battery impedance data set**
TEMİZ S., KURBAN H., EROL S., DALKILIC M. M.
Mendeley Data, 2022 (Non Peer-Reviewed Journal)
- IV. **Process Model Development of Lithium-ion Batteries - An Electrochemical Impedance Spectroscopy Simulation**
EROL S.
Sakarya University Journal of Science, no.6, pp.1192-1198, 2020 (Peer-Reviewed Journal)
- V. **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)

Books & Book Chapters

- I. **Recovery of Used and Aged Lithium-Ion Batteries by Impedance Analysis**
Erol S., Temiz S.
in: Proceedings of the 2022 International Symposium on Energy Management and Sustainability, M. Ziya Sogut, T. Hikmet Karakoc, Omer Secgin, Alper Dalkiran, Editor, Springer, London/Berlin, Zug, pp.605-611, 2023
- II. **ELEKTROKİMYASAL SİSTEMLERİN EMPEĐANSININ MATEMATİKSEL ANALİZİ**
EROL S.
in: MÜHENDİSLİK ALANINDA ULUSLARARASI ARAŞTIRMALAR, AYDEMİR EMRAH, Editor, Eğitim Yayınevi, pp.149-155, 2021
- III. **Impedance Analysis and Modeling of Lithium ion Batteries**
EROL S.
LAP LAMBERT Academic Publishing, Saarbrücken, 2016

Refereed Congress / Symposium Publications in Proceedings

- I. **Elektrokimyasal Empedans Spektroskopisi Yöntemi ile Çeşitli Malzemelerin Karakterizasyonu**
ARSLAN S., EROL S.
International Symposium on Characterization, Afyonkarahisar, Turkey, 22 - 25 September 2022
- II. **Recovery of Used and Aged Lithium-Ion Batteries by Impedance Analysis**
EROL S., TEMİZ S.
International Symposium on Energy Management and Sustainability, 09 April 2022
- III. **Analysis of the Impedance Response of Nickel–Metal Hydride Battery in Case of Overcharge and Over-discharge**
EROL S.
The 11th International Scientific Research Congress – Science and Engineering, Ankara, Turkey, 20 - 21 August 2021
- IV. **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
- V. **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
- VI. **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
- VII. **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
- VIII. **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
- IX. **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
- X. **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

- XI. **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
- XII. **Electrochemical Impedance Response of C/LiCoO₂ Batteries in Abused Conditions**
EROL S.
International Conference on Engineering Technologies, Konya, Turkey, 7 - 09 December 2017
- XIII. **A preliminary process model for Lithium-ion batteries**
EROL S.
International Congress on Chemistry and Materials Science, Ankara, Turkey, 5 - 07 October 2017
- XIV. **Li₇La₃Zr₂O₁₂ fibers as an electrolyte for all-solid-state Li-ion batteries**
EROL S.
International Congress on Chemistry and Materials Science, Ankara, Turkey, 5 - 07 October 2017
- XV. **A Measurement Model Analysis for Impedance Spectroscopy of LiCoO₂/C Batteries**
EROL S.
3rd International Conference on Engineering and Natural Science, Budapest, Hungary, 3 - 07 May 2017
- XVI. **The Impedance Response of LiCoO₂C Batteries in Series**
EROL S.
3rd International Conference on Engineering and Natural Science, Budapest, Hungary, 3 - 07 May 2017
- XVII. **A Fibrous Solid Electrolyte for Lithium-ion Batteries**
EROL S.
3rd International Conference on New Trends in Chemistry, Helsinki, Finland, 28 - 30 April 2017
- XVIII. **LiCoO₂|C Pillerinin Empedans Spektroskopisi Analizi ve Modellemesi**
EROL S.
12. Ulusal Kimya Mühendisliği Kongresi, İzmir, Turkey, 23 - 26 August 2016
- XIX. **The Significance of Impedance Spectroscopy Analysis and Modeling on LiCoO₂|C Batteries**
EROL S.
2nd International Conference on Engineering and Natural Science, Saraybosna, Bosnia And Herzegovina, 24 - 28 May 2016
- XX. **The influence of anomalous diffusion on the impedance response of LiCoO₂|C batteries**
EROL S., ORAZEM M. E.
The 66th Annual Meeting of the International Society of Electrochemistry, Taipei, Taiwan, 4 - 09 October 2015
- XXI. **Evaluation of Energy Storage Materials by Impedance Spectroscopy**
ORAZEM M. E., EROL S.
Materials Research Society Fall 2013 Meeting, Boston, United States Of America, 1 - 06 December 2013
- XXII. **A Process Model for Electrochemical Impedance Spectroscopy of LiCoO₂ Batteries**
EROL S., ORAZEM M. E.
The 224th Meeting of The Electrochemical Society, San-Francisco, Costa Rica, 27 October - 01 November 2013
- XXIII. **Influence of Overcharge and Over discharge on the Impedance Response of LiCoO₂ Batteries**
EROL S., ORAZEM M. E., MULLER R. P.
The 220th Meeting of The Electrochemical Society, Boston, United States Of America, 9 - 14 October 2011
- XXIV. **The Impedance Response of LiCoO₂ Batteries after Overcharge and Over discharge**
EROL S., ORAZEM M. E., MULLER R. P.
The 62nd Annual Meeting of the International Society of Electrochemistry, Niigata, Japan, 11 - 16 September 2011

Supported Projects

Atay F., Gür E., Demiral H., Erol S., Gültepe O., Yorulmaz U., Project Supported by Higher Education Institutions, Eş-

katkılanmış Tek-boyutlu ZnO Nanoyapı Temelli Boya ile Duyarlı Hale Getirilmiş Güneş Hücreleri (DSSC), 2023 - 2025
Erol S., Kayalı E., Demir K., Aslan M., TÜBİTAK Project, Lityum-iyon Pillerin Empedans Cevabının Makine Öğrenimi Yöntemleriyle Analizi, 2022 - 2023
Şamdan C., Demiral H., Demiral İ., Yıldız D., Moralı U., Erol S., Project Supported by Higher Education Institutions, Biyokütleden Yüksek Performanslı Elektrokimyasal Kapasitörler İçin Gözenekli Karbon Elektrot Üretimi, 2020 - 2023
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
Erol S., Other International Funding Programs, Impedance Investigation of Lithium Batteries, 2010 - 2012

Metrics

Publication: 47

Citation (WoS): 227

Citation (Scopus): 248

H-Index (WoS): 8

H-Index (Scopus): 8