

Assoc. Prof. SALİM EROL

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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, Mühendislik-Mimarlık Fakültesi, 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, Mühendislik-Mimarlık Fakültesi, Kimya Müh.Bölümü, 2023 - Continues

Assistant Professor, Eskisehir Osmangazi University, Mühendislik-Mimarlık Fakültesi, Kimya Müh.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, Mühendislik-Mimarlık Fakültesi, Kimya Müh.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., Dalkılıc 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., Dalkılıc 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., Avcı 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., Avcı 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., Dalkilic M. M.
DATA IN BRIEF, vol.45, 2022 (ESCI)
- II. **Electrochemical Impedance Spectroscopy Response of Nickel-Metal Hydride Battery to Overcharge Condition**
Ince 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 EMPEDANSININ 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., Avci 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 Overchargeand 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, Es-

katkılanmış Tek-boyutlu ZnO Nanoyapı Temelli Boya ile Duyarlı Hale Getirilmiş Güneş Hücreleri (DSSC), 2023 - 2025
Erol S., Kayalı E., Demir K., Aslan M., TUBITAK 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,
Biyokütlede Yüksek Performanslı Elektrokimyasal Kapasitörler İçin Gözenekli Karbon Elektrot Üretilimi, 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): 213
Citation (Scopus): 235
H-Index (WoS): 8
H-Index (Scopus): 8