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International Researcher IDs

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Biography

Research Areas: Supercapacitors and their applications, Conducting Polymers, Characterization studies, Corrosion Studies, Thin Section & Sample Preparation for Microscopy Analysis, Vanadium redox flow batteries and their integration with photovoltaic systems

Education Information

Doctorate, Hacettepe University, Fen Fakültesi, Kimya Bölümü, Turkey 2013 - 2019

Postgraduate, Hacettepe University, Fen Fakültesi, Kimya Bölümü, Turkey 2011 - 2013

Undergraduate, Hacettepe University, Fen Fakültesi, Kimya Bölümü, Turkey 2006 - 2011

Research Areas

Chemistry, Analytical Chemistry, Electromagnetic Methods, Electrochemistry, Natural Sciences

Academic Titles / Tasks

Assistant Professor, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 2022 - Continues

Lecturer PhD, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 2018 - Continues

Lecturer, Kütahya Dumlupınar University, SEM ve XRD Operator, 2013 - 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Electrosynthesis of binder-free polypyrrole/nano- Bi₂O₃-Bi₂O₂C₀3 composite for supercapacitor anode**

KARACA E.

Journal of Energy Storage, vol.71, 2023 (SCI-Expanded)

- II. **In situ electrosynthesis of polypyrrole/nano Bi₂O₄ composite for supercapacitor applications**

Karaca E.

- JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS, vol.34, no.1834, pp.1-13, 2023 (SCI-Expanded)
- III. Schottky contact of nano-BiO_x thin film synthesized galvanostatically on stainless steel in acetonitrile
KARACA E., Saka K., GÖKCEN D., Pekmez N. Ö.
Optik, vol.285, 2023 (SCI-Expanded)
- IV. A facile one-step electrosynthesis of polypyrrole/nano-SbO_x composite for supercapacitors
Çekiç M. G., Karaca E., Pekmez N.
SYNTHETIC METALS, vol.293, no.293, pp.117262-117279, 2023 (SCI-Expanded)
- V. The use of some sulfonic acids for improving aluminum current collector resistance
KARACA E., Pekmez N., PEKMEZ K.
Materials Today Communications, vol.33, 2022 (SCI-Expanded)
- VI. Nano MnO_x encapsulated pyrrole-carbazole copolymer and polyvinyl chloride/carbon-coated flexible electrodes for solid-state supercapacitor cell
KARACA E., Ozgenc G., Pekmez N., PEKMEZ K.
JOURNAL OF ENERGY STORAGE, vol.55, 2022 (SCI-Expanded)
- VII. Room temperature electrosynthesis of Ti_nO_{2n-1} film and its bilayer with PNMPy on mild steel for corrosion protection in sulphuric acid
Pekmez N. O., Ugur M., KARACA E., ERTEKİN Z., PEKMEZ K.
ELECTROCHIMICA ACTA, vol.376, 2021 (SCI-Expanded)
- VIII. Electrochemical synthesis and corrosion protection of poly(3-aminophenylboronic acid-co-pyrrole) on mild steel
Sariarslan H., KARACA E., ŞAHİN M., Pekmez N. O.
RSC ADVANCES, vol.10, no.63, pp.38548-38560, 2020 (SCI-Expanded)
- IX. 4.2 V Stack of metal oxide-polypyrrole-based composite electrodes and their power management
KARACA E., GÖKCEN D., Pekmez N., PEKMEZ K., Uğur M., Aksu N. D.
International Journal of Energy Research, vol.44, no.11, pp.8666-8680, 2020 (SCI-Expanded)
- X. Evaluation of corrosion resistance of Co-Cr alloys fabricated with different metal laser sintering systems
TUNA S. H., KARACA E., Aslan I., Pekkan G., Pekmez N.
Journal of Advanced Prosthodontics, vol.12, no.3, pp.114-123, 2020 (SCI-Expanded)
- XI. Galvanostatic synthesis of nanostructured Ag-Ag₂O dispersed PPY composite on graphite electrode for supercapacitor applications
KARACA E., GÖKCEN D., Pekmez N., PEKMEZ K.
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.44, pp.158-170, 2020 (SCI-Expanded)
- XII. Electrochemical synthesis of PPY composites with nanostructured MnO_x, CoO_x, NiO_x, and FeO_x in acetonitrile for supercapacitor applications
Karaca E., GÖKCEN D., Pekmez N., PEKMEZ K.
ELECTROCHIMICA ACTA, vol.305, pp.502-513, 2019 (SCI-Expanded)
- XIII. Memristive behavior of TiO_x obtained via Pb(II)-assisted anodic oxidation process
GÖKCEN D., Senturk O., Karaca E., Pekmez N., PEKMEZ K.
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.30, no.6, pp.5733-5743, 2019 (SCI-Expanded)
- XIV. An Enzyme-free H₂O₂ Sensor Based on Poly(2-Aminophenylbenzimidazole)/Gold Nanoparticles Coated Pencil Graphite Electrode
Teker M. S., KARACA E., Pekmez N., Tamer U., PEKMEZ K.
ELECTROANALYSIS, vol.31, no.1, pp.75-82, 2019 (SCI-Expanded)
- XV. One-step electrosynthesis of polypyrrole/PbO_x composite in acetonitrile as supercapacitor electrode material
Karaca E., GÖKCEN D., Pekmez N., PEKMEZ K.
SYNTHETIC METALS, vol.247, pp.255-267, 2019 (SCI-Expanded)
- XVI. Electrosynthesis of polypyrrole-vanadium oxide composites on graphite electrode in acetonitrile in

- the presence of carboxymethyl cellulose for electrochemical supercapacitors**
KARACA E., PEKMEZ K., Pekmez N.
ELECTROCHIMICA ACTA, vol.273, pp.379-391, 2018 (SCI-Expanded)
- XVII. **Charge-Transfer Complex of p-Aminodiphenylamine with Maleic Anhydride: Spectroscopic, Electrochemical, and Physical Properties**
KARACA E., CAN H., BOZKAYA U., Pekmez N.
CHEMPHYSCHM, vol.17, no.13, pp.2056-2065, 2016 (SCI-Expanded)
- XVIII. **Galvanostatic deposition of polypyrrole in the presence of tartaric acid for electrochemical supercapacitor**
KARACA E., PEKMEZ N., PEKMEZ K.
ELECTROCHIMICA ACTA, vol.147, pp.545-556, 2014 (SCI-Expanded)

Articles Published in Other Journals

- I. **CrOx-Hapsoluş Polipirol Nanokompozitinin Elektrokimyasal Sentezi, Karakterizasyonu ve Süperkapasitör Uygulaması**
Karaca E.
Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, vol.11, no.1, pp.1-15, 2023 (Peer-Reviewed Journal)
- II. **PPy/SbOx-SnO₂ Anot Aktif Malzemesinin Tek Basamakta Elektrokimyasal Sentezi ve Süperkapasitör Uygulaması**
Çekiç M. G., Karaca E., Pekmez N. Ö.
Afyon Kocatepe Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, vol.23, no.4, pp.898-913, 2023 (Peer-Reviewed Journal)
- III. **Endüstride Yaygın Olarak Kullanılan Asit Çözeltileri İçinde AA5754 Yüzeyinin ve Korozyon Davranışının İncelenmesi**
Karaca E., Alkan E.
Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, vol.8, no.2, pp.978-989, 2021 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **One-step electrosynthesis of polypyrrole/PbOx composite in acetonitrile as supercapacitor electrode material**
KARACA E., GÖKCEN D., ÖZÇİÇEK N., PEKMEZ K.
Electrochemistry Conference 2019, İstanbul, Turkey, 11 - 13 September 2019
- II. **Memristive Property of TiO_x Deposited by Catalyzed Anodization Process**
Gul E., GÖKCEN D., Senturk O., KARACA E., Özçiçek Pekmez N., PEKMEZ K.
6th Nano Today Conference, 16 - 20 June 2019
- III. **Electrodeposition of Polypyrrole containing Manganese ions in Acetonitrile Solution on pencil graphite electrode for Electrochemical Supercapacitor**
KARACA E., PEKMEZ K., ÖZÇİÇEK N.
5th International Symposium on Enhanced Electrochemical Capacitors, 10 - 14 July 2017
- IV. **Galvanostatic Deposition of Polypyrrole Cobalt Perchlorate on pencil graphite electrode in the presence of graphene for Electrochemical Supercapacitor**
KARACA E., ÖZÇİÇEK N., PEKMEZ K.
3rd Emerging 2D Materials & Graphene Conference from Laboratory to Industry 2016, İstanbul, Turkey, 20 - 21 November 2016
- V. **A new charge transfer Complex of p aminodiphenyldiamine with maleic anhydride**
KARACA E., KAPLAN CAN H., ÖZÇİÇEK N.
AACD 2016, International Conference 10th Aegean Chemistry days, Çanakkale, Turkey, 29 September - 02 October

2016

VI. **A New Charge Transfer Complex of P Aminodiphenyldiamine with Maleic Anhydride**
KARACA E., KAPLAN CAN H., ÖZÇİÇEK N.

10th Aegean Analytical Chemistry Days, Ankara, Turkey, 29 September - 02 October 2016

Metrics

Publication: 27

Citation (WoS): 98

Citation (Scopus): 126

H-Index (WoS): 6

H-Index (Scopus): 6

Scholarships

2211 - Yurt İçi Lisansüstü Burs Programı, TUBITAK, 2013 - 2019