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International Researcher IDs

ScholarID: s-I02u8AAAAJ

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ScopusID: 56387030200

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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, Kütahta Dumlupınar University, SEM ve XRD Operator, 2013 - 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. Fabrication of a PPy composite with EMD nanorods recovered from Li-ion batteries for supercapacitor**
Karaca E., Pekmez N. Ö., Pekmez K.
Journal of Materials Science: Materials in Electronics , vol.35, no.1681, pp.1-25, 2024 (SCI-Expanded)
- II. Electrosynthesis of binder-free polypyrrole/nano- Bi₂O₃-Bi₂O₂CO₃ composite for supercapacitor anode**

KARACA E.

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

- III. **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)
- IV. **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)
- V. **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)
- VI. **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)
- VII. **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)
- VIII. **Room temperature electrosynthesis of TinO_{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)
- IX. **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)
- X. **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)
- XI. **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)
- XII. **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)
- XIII. **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)
- XIV. **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)
- XV. **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)
- XVI. **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)

- XVII. **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)
- XVIII. **Charge-Transfer Complex of p-Aminodiphenylamine with Maleic Anhydride: Spectroscopic, Electrochemical, and Physical Properties**
KARACA E., Can H., BOZKAYA U., Pekmez N.
CHEMPHYSICHEM, vol.17, no.13, pp.2056-2065, 2016 (SCI-Expanded)
- XIX. **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. **Nano-CrOx Enkapsüle Edilmiş Polipirolün Elektrokimyasal Sentezi ve Süperkapasitör Uygulaması**
Karaca E.
Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, vol.11, no.1, pp.150-160, 2024 (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 TiOx 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 Manganous 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 aminodiphenyldiamne 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: 28

Citation (WoS): 98

Citation (Scopus): 126

H-Index (WoS): 6

H-Index (Scopus): 6

Scholarships

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