



Emad Salaam Abood Abbas Shlakaa

عماد سلام عبود شلاكة

Assistant Professor

PROFILE

Asisst. prof. dr. Emad Salaam Abood

Medical Physical Chemistry

ACADEMIC TITLES

2022-03-31

Assistant Professor

TEACHING EXPERIENCE

Lecture

Al-Tusi University

2019-03 - 2019-09

Lecture

University of Hilla

2019-10 - Present

Lecture

University of Kerbala

2023-02 - Present

COURSES

• General Chemistry

• Analytical Chemistry

• Biochemistry

• Organic chemistry

• Physical Chemistry

GRADUATE SUPERVISION

(2022)

(2025)

ADMINISTRATIVE POSITIONS

2020-02-24 - 2024-10-13

Assistant Dean for Scientific Affairs

2024-10-14 - Present

Vice President for Scientific Affairs

INTERNATIONAL MEMBERSHIPS

CONTACT

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EDUCATION

دكتوراه (01-08-2018)

Medical Physical Chemistry

University of Kufa

RESEARCH METRICS

h-index (Scopus)	10
h-index (GS)	11
Citations (Scopus)	453
Citations (GS)	606
Documents (Scopus)	53
Documents (GS)	54

AWARDS

- Third Place Award in the Scientific Booklet Authoring Category ARID Scientific Content Creation Competition
- International Creativity Medal
- International Creativity Medal
- Letter of Appreciation from the General Directorate of Education in Karbala Governorate

RESEARCH INTERESTS

- Medical Physical Chemistry
- Electrochemistry
- Analytical Chemistry
- Nanochemistry and Nanomaterials
- Electrochemical Sensors and Biosensors
- Nanoparticle-Modified Electrodes
- Cyclic Voltammetry
- Electrochemical Analysis of Heavy Metal Ions
- Medical and Environmental Applications of Nanomaterials
- Design of Biosensors for Pathogen Detection



- Member of the American Chemical Society
- Member of the American Society for Microbiology
- Member of the Ureed International Platform for Arabic Speakers
- Member of the Badan Academy platform
- Member of the Global Development Platform
- Membership in the Arab Unity Academy for Training and Professional Studies
- Member of the British Council Digital Library
- Member of the Iraqi Academics Syndicate

PUBLICATIONS (73)

1. **ZnFe₂O₄ nanoparticle-modified screen-printed electrode for determination of serotonin in the presence of dopamine and tryptophan: Original scientific paper**
ADMET and DMPK 14, 2026 | 2026
2. **Metal–metal interactions in trinuclear ruthenium-osmium clusters with bridging ligands: a QTAIM analysis**
Structural Chemistry 37 (2), 785-796, 2026 | 2026 | Cited: 1
3. **Recent advances in nanomaterials-based electrochemical sensors for herbicide detection**
Journal of Electrochemical Science and Engineering 16, 2026 | 2026
4. **ZnFe₂O₄ nanoparticle-modified screen-printed electrode for determination of serotonin in the presence of dopamine and tryptophan**
ADMET and DMPK | 2026
5. **Titanium Dioxide Nanoparticles Modified Carbon Paste Electrode for Redox Process Application**
Baghdad Science Journal 23 (8), 2878-2890, 2026 | 2026
6. **Modified carbon paste electrode as a sensitive electrochemical sensor for quantification of chemotherapy drug imatinib**
Journal of Electrochemical Science and Engineering | 2026
7. **Magnesium Oxide NPs Carbon Paste Ion-Selective Electrode Industrialization and Potentiostat Cyclic Voltammetry Detections for Determination of Mg⁺ Ion in Various Solutions**
Annales de Chimie: Science des Matériaux 49 (2), 213, 2025 | 2025 | Cited: 1
8. **The QTAIM and ELF approaches to chemical bonding in chalcogen-bridging tetra-manganese carbonyl clusters: [E₂Mn₄(CO)₁₂]²⁻ (E = S, Se, Te)**
Computational and Theoretical Chemistry, 115528, 2025 | 2025 | Cited: 5
9. **Recent advances in nanomaterials-based electrochemical sensors for herbicide detection**
Journal of Electrochemical Science and Engineering | 2025
10. **QTAIM view of Ru–Ru bonding in a series of tri-ruthenium hydride clusters: [{CpRu(μ-H)}₃/sub>(μ-SUP>3</SUP>-BH)], [{CpRu(μ-H)}₃/sub>(μ-SUP>3</SUP>-H)₂], [{CpRu(CO)}₃/sub>(μ-BO)(μ-H)₂], and [{CpRu(μ-H)}₃/sub>(μ-SUP>3</SUP>-AlEt)]**
Journal of Molecular Modeling | 2025
11. **QTAIM view of Ru–Ru bonding in a series of tri-ruthenium hydride clusters: [{CpRu (μ-H)}₃ (μ₃-BH)], [{CpRu (μ-H)}₃ (μ₃-H)₂], [{CpRu (CO)}₃ (μ-BO)(μ-H)₂], and [{CpRu (μ-H)}₃ ...]**
Journal of Molecular Modeling 31 (6), 165, 2025 | 2025 | Cited: 1
12. **Study of UTI Effect on Renal Function for the Patient with Thyroid Autoimmune Disease**
Hilla University College Journal For Medical Science 2 (1), 40-45, 2024 | 2024 | Cited: 3
13. **DETECTION OF THE PANTON-VALENTINE LEUKOCIDIN GENE IN MRSA USING REAL-TIME POLYMERASE CHAIN REACTION**
MALAYSIAN JOURNAL OF MICROBIOLOGY, 2024 | 2024
14. **Topological analysis of the electron density in the chromium–manganese chalcogenide clusters, [E₂CrMn₂(CO)₉]²⁻ (E = S, Se, Te)**
Theoretical Chemistry Accounts 143 (6), 52, 2024 | 2024 | Cited: 10

15. **Computational study of the thermal performance of water/Fe₃O₄ nanofluid in an oscillating heat pipe: A molecular dynamics approach**
Alexandria Engineering Journal 73, 95-107, 2023 | 2023 | Cited: 10
16. **Evaluation of efficiency, thermohydraulic performance evaluation criterion, and field synergy principle improvement of the parabolic solar collector containing the hybrid nanofluid using spring turbulators**
Case Studies in Thermal Engineering 41, 102571, 2023 | 2023 | Cited: 29
17. **Chemical Analysis, Antioxidant, and Antibacterial Potential of Aqueous Extract of Broccoli (Brassica oleracea) Using GC-ms.**
Institut Razi. Archives 78 (2), 2023 | 2023 | Cited: 11
18. **Electrochemical sensors of cardiovascular drug—plavix on hexagonal Ce³⁺/NiO nanodisks modified screen-printed electrode**
Journal of Applied Electrochemistry 53 (3), 535-545, 2023 | 2023 | Cited: 5
19. **Investigation of Nanostructured Zirconium Oxide Films Manufactured by Spray Pyrolysis: Structural, Morphological, and Optical Properties**
Journal of Nanostructures, 2023 | 2023 | Cited: 1
20. **Removal of Chromium Ions from Polluted Water by Highly Active Surface ZnO/ Activated Carbon: Kinetic and Thermodynamic Model**
Journal of Nanostructures | 2023
21. **Diffraction grating via position dependent incident light in a closed-loop quantum system**
Laser Physics 33 (5), 055201, 2023 | 2023
22. **Evaluation of efficiency, thermohydraulic performance evaluation criterion, and field synergy principle improvement of the parabolic solar collector containing the hybrid nanofluid using spring turbulators**
Case Studies in Thermal Engineering | 2023
23. **Carbon nanotube (10, 0) and silicon nanotube (7, 0) as a novel material for drug delivery of substituted eugenols as antioxidant drugs**
Silicon 15 (1), 285-291, 2023 | 2023 | Cited: 2
24. **Study on novel fluorescent carbon nanomaterials in food analysis**
Food Science and Technology (Brazil) | 2022 | Cited: 190
25. **Synergistic effect of doping and nanotechnology to fabricate highly efficient photocatalyst for environmental remediation**
Journal of Alloys and Compounds 920, 165876, 2022 | 2022 | Cited: 81
26. **Carbon Nanotube (10, 0) and Silicon Nanotube (7, 0) as a Novel Material for Drug Delivery of Substituted Eugenols as Antioxidant Drugs**
Silicon | 2022 | Cited: 2
27. **Chromenone-based GSK-3b inhibitors as potential therapeutic targets for cardiovascular diseases: In silico study, molecular dynamics, and ADMET profiles**
Arabian Journal of Chemistry | 2022
28. **Dual pharmacological targeting of Mycobacterium tuberculosis (Mtb) PKNA/PKNB: A novel approach for the selective treatment of TB illness**
Egyptian Journal of Chemistry | 2022
29. **Graft Co-Polymer Nano Particle as Carbon Steel Corrosion Inhibitor in 1M H₂SO₄ At 293K**
Egyptian Journal of Chemistry | 2022
30. **Preparation, Characterization, and Adsorption Potential of the Eco-friendly Surface to Remove the Basic Dye from an Aqueous Solution**
International Journal of Pharmaceutical Quality Assurance | 2022
31. **Removal of Indigo Carmine Dye from Aqueous Solutions by Low-cost Surface: Investigation of Adsorption Properties**
International Journal of Pharmaceutical Quality Assurance | 2022
32. **Removal of Pharmaceutical Drug by using Effective Adsorbent: Process Optimization and Isotherm Study**
International Journal of Pharmaceutical Quality Assurance | 2022

33. **Molecular dynamics study of oil type and volume ratio of nanoparticles on the thermal behavior of nanorefrigerants**
Case Studies in Thermal Engineering 37, 102255, 2022 | 2022 | Cited: 7
34. **Supercapacitor Performance of Fe₃O₄ and Fe₃O₄@SiO₂-bis(aminopyridine)-Cu Hybrid Nanocomposite**
International Journal of Electrochemical Science | 2022
35. **Water decolourisation using a phytoremediation method: *Ocimum basilicum* as model**
IOP Conference Series: Earth and Environmental Science | 2022
36. **Adopting electrocoagulation technology for removing arsenic from contaminated water**
IOP Conference Series: Earth and Environmental Science 1088 (1), 012020, 2022 | 2022 | Cited: 8
37. **Removal of Pollutants from Aqueous Solutions by using Natural Surfaces (Cotton) as a Model for Reusability and Highly Adsorbent Surface**
International Journal of Drug Delivery Technology 12 (2), 583-587, 2022 | 2022 | Cited: 6
38. **Removal of cyanide from wastewater using iron electrodes**
IOP Conference Series: Earth and Environmental Science 1088 (1), 012002, 2022 | 2022 | Cited: 5
39. **Designing a green supply chain transportation system for an automotive company based on bi-objective optimization**
Foundations of Computing and Decision Sciences 47 (2), 193-207, 2022 | 2022 | Cited: 9
40. **Molecular dynamics simulation of obstacle number effect on heat and mass transfer of argon flow inside the platinum nanochannels**
Journal of Molecular Liquids 363, 119871, 2022 | 2022 | Cited: 5
41. **Monitoring Study on the Incidence of 25-OH Vitamin D Deficiency in Population of Kerbala Province**
Egyptian Journal of Chemistry 65 (131), 1319-1322, 2022 | 2022 | Cited: 3
42. **Graft Co-Polymer Nano Particle as Carbon Steel Corrosion Inhibitor in 1M H₂SO₄ At 293K**
Egyptian Journal of Chemistry, 2022 | 2022 | Cited: 3
43. **Metals Concentrations in Blood and Urine Measured Using a New Nano Metals Oxide Electrode**
Nano Biomedicine and Engineering 14 (2), 107-113, 2022 | 2022 | Cited: 2
44. **Water decolourisation using a phytoremediation method: *Ocimum basilicum* as model**
IOP Conference Series: Earth and Environmental Science 1088 (1), 012021, 2022 | 2022 | Cited: 1
45. **Multi-walled Carbon Nanotubes Synthesis from Ethanol and 2-Propanol by Chemical Vapor Deposition**
Egyptian Journal of Chemistry, 2022 | 2022 | Cited: 1
46. **Dual pharmacological targeting of *Mycobacterium tuberculosis* (Mtb) PKNA/PKNB: A novel approach for the selective treatment of TB illness**
Egyptian Journal of Chemistry 65 (12), 409-419, 2022 | 2022 | Cited: 11
47. **Chromenone-based GSK-3β inhibitors as potential therapeutic targets for cardiovascular diseases: In silico study, molecular dynamics, and ADMET profiles**
Arabian Journal of Chemistry 15 (12), 104288, 2022 | 2022 | Cited: 12
48. **Determination of Zinc Level in Serum and Urine of COVID-19 Patients by New Metal Oxide Nanoparticles Carbon Paste Electrode**
Journal of Communicable Diseases | 2022
49. **Removal of pollution with eosin yellow dye from waste water by using a novel nano co-polymer**
Nano Biomedicine and Engineering 14 (3), 272-279, 2022 | 2022
50. **Steel corrosion prevention through the use of orange peels**
stainless steel 11, 12, 2022 | 2022
51. **Highly Sensitive and Selective Chromium Oxide Nanoparticles Modified Carbon Paste Membrane Electrode to Determine Cr Concentration in Different Solutions**
Nano Biomedicine and Engineering 14 (1), 53-57, 2022 | 2022
52. **NEW SENSITIVE AND SELECTIVE MEMBRANE ELECTRODES DEVELOPED FOR ELECTROLYTE AUTOANALYSERS**
Oxidation Communications 45 (1), 125-134, 2022 | 2022

53. **Antimicrobial susceptibility pattern of some pathogenic bacteria isolated from dental caries**
Egyptian Journal of Chemistry 65 (4), 701-714, 2022 | 2022 | Cited: 9
54. **Corrosion Inhibition Of Low Carbon Steel Using Green Inhibitor (Bulrush) At Variable Conditions**
Egyptian Journal of Chemistry 65 (2), 565-570, 2022 | 2022 | Cited: 2
55. **Synthesis of new Corrosion Inhibitor from Nano-Polymer and study its adsorption on carbon steel at different Temperatures**
Egyptian Journal of Chemistry 65 (11), 691-705, 2022 | 2022 | Cited: 12
56. **Investigation of in vitro Cytotoxicity of Chelidonium majus against Leishmania Major**
Archives of Razi Institute 77 (3), 1211-1214, 2022 | 2022 | Cited: 13
57. **Nano-Poly Chitosan-Ampicillin Drug: Synthesis, Characterization and Cytotoxicity**
Egyptian Journal of Chemistry 65 (13), 1313-1318, 2022 | 2022 | Cited: 20
58. **Polymeric nanocomposite membranes for gas separation: Performance, applications, restrictions and future perspectives**
Case Studies in Thermal Engineering, 102323, 2022 | 2022 | Cited: 28
59. **Supercapacitor performance of Fe₃O₄ and Fe₃O₄@ SiO₂-bis (aminopyridine)-Cu hybrid nanocomposite**
International Journal of Electrochemical Science 17 (10), 221057, 2022 | 2022 | Cited: 47
60. **Mn Determination by Metals Oxide Nanoparticles Mix Ions Selective Carbon Past Electrode Industrialization and Cyclic Voltammetry Application Study**
Nano Biomed. Eng 13 (3), 249-256, 2021 | 2021 | Cited: 5
61. **MTHFR 677 C<T and 1298 A<C polymorphisms increases the risk of recurrent abortion in the Iraqi woman**
ResearchSquare | 2021 | Cited: 3
62. **Zinc oxide and Zinc oxide Nanoparticles Carbon Past Ion Selective Electrode: A Cyclic Voltammetry Comparison Study**
Journal of Physics: Conference Series 2047 (1), 012022, 2021 | 2021 | Cited: 2
63. **MTHFR 677 C<T and 1298 A>C polymorphisms increases the risk of recurrent abortion in the Iraqi woman**
Research Square | 2021
64. **New Fe₂O₃ Nanoparticles Modified Carbon Paste Electrode: A Cyclic Voltametric Study**
Egyptian Journal of Chemistry | 2021
65. **Zn, Cu and Mn determination by metals oxide nanoparticles mix ions selective carbon past electrode industrialization and cyclic voltammetry application study**
Nano Biomedicine and Engineering | 2021
66. **Study on novel fluorescent carbon nanomaterials in food analysis**
Food Science and Technology 42, e37821, 2021 | 2021 | Cited: 180
67. **New Fe₂O₃ Nanoparticles Modified Carbon Paste Electrode: A Cyclic Voltammetric Study**
Egyptian Journal of Chemistry 64 (12), 7509-7515, 2021 | 2021 | Cited: 10
68. **Design of ultrasensitive electrochemical aptasensor for earlier detection of hepatitis B virus**
Nano Biomedicine and Engineering 13 (2), 150-164, 2021 | 2021 | Cited: 6
69. **Cyclic Voltammetry Study for MnO₂ Nanoparticles Modified Carbon Paste Electrode**
Nano Biomedicine and Engineering 11 (4), 368-374, 2019 | 2019 | Cited: 11
70. **Cyclic voltammetry study for MnO₂ nanoparticles modified carbon paste electrode**
Nano Biomedicine and Engineering | 2019
71. **Zinc metal at a new ZnO nanoparticles modified carbon paste electrode: A cyclic voltammetric study**
Nano Biomedicine and Engineering | 2018 | Cited: 17
72. **Copper metal at new CuO nanoparticles modified carbonpaste electrode: selective voltammetric determination**
Nano Biomedicine and Engineering 10 (3), 243-249, 2018 | 2018 | Cited: 6
73. **& Al-Salman, HNK (2022). Supercapacitor performance of Fe₃O₄ and Fe₃O₄@ SiO₂-bis (aminopyridine)-Cu hybrid nanocomposite**
International Journal of Electrochemical Science 17 (10), 221057, 0 | 0 | Cited: 2