

C.V.

Name: Sharafaldin Al-Musawi

Date of birth: 1985/7/5

Marital Status: Married

Number of Children: 3

Religion: Muslim



Specialization: Nanobiotechnology

Job: University Professor

Academic degree: Professor

Work address: Al-Qasim district, Babylon Province, Iraq. Zipcode: 51013

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First: Academic qualifications.

| Scientific Degree | University | College | Date |
|-------------------|---|-------------------------------|-----------|
| Bachelor's | University of Shahed (Iran) | College of Agriculture | 2002-2006 |
| Masters | Imam Khomeini International University (Iran) | College of Engineering | 2007-2010 |
| Ph.D. | Tarbiat Modares University (Iran) | College of Bioscience | 2010-2014 |
| Other | | | |

■ Second: Career progression.

| No. | The Job | Position | Period from - to |
|-----|---------------------|---------------------------|------------------|
| 1 | Teacher | Al Qasim Green University | 2016-2019 |
| 2 | Assistant Professor | Al Qasim Green University | 2019-2024 |

■ Third: University teaching.

| No. | College | University | Period from - to |
|-----|--------------------------|---------------------------|------------------|
| 1 | College of Biotechnology | Al Qasim Green University | 2016-2021 |
| 2 | College of Food sciences | Al Qasim Green University | 2021-2024 |

■ Fourth: The courses that I taught.

| No. | Subject | Department |
|-----|-------------------------------|-----------------------------|
| 1 | Biotechnology | Applied Biotechnology |
| 2 | Nanobiotechnology | Applied Biotechnology |
| 3 | Pharmaceutical Biotechnology | Applied Biotechnology |
| 4 | Stem cells | Applied Biotechnology |
| 5 | Biosensors and biochips | Applied Biotechnology |
| 6 | Animal tissue culture | Applied Biotechnology |
| 7 | Biochemistry | Food Science and Technology |
| 8 | Organic chemistry | Food Science and Technology |
| 9 | Biological Safety and hazards | Food Science and Technology |
| 10 | Professional ethics | Food Science and Technology |

■ Fifth: (Theses, theses) supervised by:

| No. | The name of the thesis or dissertation | Department | Year |
|-----|--|-----------------------|---------------|
| 3 | Synthesis of Biopolymer with Nanoparticles by Laser Ablation as Controlled Drug Release | Applied Sciences | 2017-2020 |
| 2 | Superparamagnetic iron oxide nanoparticle synthesis using pulsed laser ablation in liquid method for biomedical applications. | Applied Sciences | 2020-2022 |
| 1 | In vitro study of antibacterial activity of Honey/chitosan Nano fibrous membrane enriched with Al ₂ O ₃ nanoparticles and clove extract for wound healing process. | Medical Biotechnology | 2020-2022 |
| 4 | Development of Intelligence Iron Oxide - Polymeric Nano-Carrier by Laser Ablation and Functionalized as Targeted Paclitaxel Drug Delivery | Applied Sciences | 2020-2023 |
| 5 | Laser synthesis and Nanoformulation of Metals Oxide/Nature Materials as Biomedical Application. | Applied Sciences | 2022-continue |
| 6 | preparation and characterization of nanoparticles loaded with date seed powder and study of their physicochemical and sensory effects on the properties of yogurt. | Dairy | 2023-continue |
| 7 | Folate Functionalized Fe ₃ O ₄ -Polymeric Nano-Carrier as Targeted Etoposide Drug Delivery for Lung cancer therapy | Biotechnology | 2024-continue |
| 8 | Fe ₃ O ₄ @Au Core-Shell Nanoparticle Synthesis by Pulsed Laser Ablation in Liquid and its functionalization for Targeted Drug Delivery in Cancer Therapy. | physics | 2022-continue |

■ Sixth: Scientific conferences and seminars in which I participated.

| No. | Title | Year | Place of its holding | Participation type |
|-----|--|------|----------------------|--------------------|
| 1 | 5th international congress of nanoscience and nanotechnology | 2014 | Tehran / Iran | Paper |
| 2 | 11th Genetics Congress | 2010 | Gilan / Iran | Paper |
| 3 | 6th Congress of Horticultural Sciences | 2009 | Tehran / Iran | Paper |

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| 4 | 5th International Scientific Conference for Nanotechnology and Advanced Materials and Their Applications ICNAMA | 2015 | Baghdad / Iraq | Paper |
| 5 | 5th international congress of breast cancer | 2016 | Urmia / Iran | Paper |
| 6 | 5 th international congress of breast cancer | 2016 | Kermanshah/ Iran | Paper |
| 7 | 1th International Scientific Conference for medicine and biology | 2017 | Babylon / Iraq | Paper |
| 8 | First International Conference for Biotechnology | 2017 | Al-Qasim/ Iraq | Paper |
| 9 | Iraqi-Germany Conference | 2017 | Babylon / Iraq | Paper |
| 10 | 12 th International Congress of Breast Cancer | 2017 | Tehran / Iran | Paper |
| 11 | First International Scientific Conference | 2017 | Qadisiyah / Iraq | Paper |
| 12 | 6th international conference for nanotechnology and advanced materials and their applications | 2018 | Baghdad / Iraq | Paper |
| 13 | 2nd national conference of nanoscience & nanotechnology | 2018 | Boroujerd / Iran | Paper |
| 14 | Nanotechnology and Advanced Material Center, University of Technology | 2018 | Baghdad / Iraq | Paper |
| 15 | 6th international conference for nanotechnology and advanced materials and their applications | 2018 | Baghdad / Iraq | Paper |

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|----|--|------|-------------------------|-------|
| 16 | 4 th conference on peptide and protein sciences (PPS4), University of Isfahan 1-2 may | 2019 | Isfahan / Iran | Paper |
| 17 | 4th international congress of applied chemistry | 2019 | Urmia / Iran | Paper |
| 18 | 8 th International Conference on Green Gold. | 2019 | Tehran/ Iran | Paper |
| 19 | 16 th Iranian pharmaceutical science | 2019 | Kermanshah / Iran | Paper |
| 20 | The international conference of nanotechnology | 2020 | Erbil / Iraq | Paper |
| 21 | TMREES Conference Series: Technologies and Materials for Renewable Energy, Environment and Sustainability” | 2020 | Athens / Greece | Paper |
| 22 | 1 th international conference of Scientific research in pandemics and crises, challenges of reality and future prospects | 2020 | Misan / Iraq | Paper |
| 23 | Ziggurat International Conference on Materials Science and Engineering | 2020 | London / United Kingdom | Paper |
| 24 | International Conference on Nanotechnology and Nanoscience | 2020 | Tehran / Iran | Paper |
| 25 | <i>TMREES-2021</i> The 16th Int'l Conf | 2021 | Athens / Greece | Paper |
| 26 | <i>TMREES-2021</i> The 16th Int'l Conf. | 2021 | Athens / Greece | Paper |

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| 27 | TMREES-2021 The 16th Int'l Conf | 2021 | Athens / Greece | Paper |
| 28 | The 17th Int'l Conf | 2022 | Grand-Est, France | Paper |
| 29 | The 17th Int'l Conf | 2022 | Metz, Grand-Est, France | Paper |
| 30 | International Conference on Advances in Interdisciplinary Nanosciences | 2024 | Kerla / India | Paper |

■ Seventh: Other scientific activities.

Research published in international scientific journals

Hamidreza Kheiri Manjili, Hossein Naderi-Manesh, Maedeh Mashhadikhan, Leila Ma'mani, Safoora Nikzad, Sharafaldin Al-Musawi. "The effect of iron-gold core shell magnetic nanoparticles on the sensitization of breast cancer cells to irradiation". J Paramed Sci 2014, 5, 85-90.

Ma'mani L, Nikzad S, Kheiri-Manjili H, Al-Musawi S, Saeedi M, Askarlou S, Foroumadi A, Shafiee A. Curcumin-loaded guanidine functionalized PEGylated I3ad mesoporous silica nanoparticles KIT-6: Practical strategy for the breast cancer therapy. Eur J Med Chem. 2014; 18; 83:646-54. <https://doi.org/10.1016/j.ejmech.2014-06-069>.

Mirza Ali Mofazzal Jahromi, Sharafaldin Al-Musawi, Majid Pirestani, Mahdi Fasihi, Ramandi, Kazem Ahmadi, Hajar Rajayi, Zuhair Mohammad Hassan, Mahdi Kamali, Reza Mirnejad. "Curcumin-loaded Chitosan Tripolyphosphate Nanoparticles as a safe, natural and effective antibiotic inhibits the infection of Staphylococcus aureus and Pseudomonas aeruginosa in vivo. Iran J Biotech 2014, 12(3) 1-8.

Sharafaldin Al-Musawi, Hosein Naderi-Manesh, Zuhair Mohammad Hassan, Hamid Yeganeh, Safura Nikzad, Hamidreza Kheiri Manjili. "Construction of Polyurethane Polymeric-based Nano-carriers for Curcumin in Cancer Therapy" Mod. J. Med. Sci: Pathobiology, 2014, 17, 25-39.

Mofazzal Jahromi MA, Rajayi H, Al-Musawi Sh, Pirestani M, Fasihi Ramandi M, Ahmadi K, Sharifzadeh Peivasti V, Mohammad Hassan Z, Kamali M, Mirnejad R. "Evaluation of Antibacterial Effect of Curcumin Loaded Chitosan Nanoparticles" Journal of Fasa Univ of Med Sci: 2015, 5, 1, 134-141.

Al-Kinani, M.A., Haider, A.J. & Al-Musawi, S. Design, Construction and Characterization of Intelligence Polymer Coated Core-Shell Nanocarrier for Curcumin Drug Encapsulation and Delivery in Lung Cancer Therapy Purposes. J Inorg Organomet Polym 31, 70–79 (2021). doi: 10.1007/s10904-020-01672-w.

Sharafaldin Al-Musawi, Rahim Haddad., Qasem-ali Garoosi. A., Ramin Hosseini. "Cloning and structural Analysis of a Thioredoxin h (VvTrxh10) Gene from Yaquti Grape". Mod Genetic 2010. 1, 45-59.

Sharafaldin Al-Musawi, Rahim Haddad., Qasem-ali Garoosi. A., Ramin Hosseini. Molecular Cloning, Isolation and Characterization of a Pectate Lyase Gene from Grape". Agricultural researchs, 1, 45- 59, 2010.

Sharafaldin Al-Musawi. Folated-nanocarrier for curcumin drug delivery in breast cancer therapy. Eng. & Tech. Journal, Vol.33, No.9, 2015.

Kadhun SA, Hindi NKK, Al-Musawi S, Alkaim AF. Evaluation of Antimicrobial Activity of the Aquatic Extract against Bacterial isolates from URTI in Babylon Province, Iraq. J Global Pharma Tech. 2017; 12(9):296-301.

Al-Musawi S, Kadhim MJ, Hindi NKK. Folated-nanocarrier for paclitaxel drug delivery in leukemia cancer therapy. 2018;J Pharm Sc. J Pharm Sci & Res. 2018; 10(4): 749-754.

Abdul-Husin IF, Sharafaldin Al-Musawi S, A. Hindi NKK. Abudl-Mahdi S. Aqueous lemon extracts as antimicrobial agent against some pathogenic bacteria. Plant Archives. 2018; 18(1): 431-434.

Al-Awady MJ, Balakit AA, Al-Musawi S, Alsultani MJ, Ahmed Kamil, Alabbasi M. Investigation of Anti-MRSA and Anticancer Activity of Eco-Friendly Synthesized Silver Nanoparticles from Palm Dates Extract. *Nano Biomed. Eng.* 2019; 11(2):157-169. <https://doi:10.5101/nbe.v11i2.p157-169>.

Al-Musawi, Hadi AJ, Hadi SJ, Hindi NKK. Preparation and Characterization of Folated Chitosan-Magnetic Nanocarrier for 5-Fluorouracil Drug Delivery and Studying its Effect in Bladder Cancer Therapy. *J Global Pharma Tech.* 2019; 11(7):628-637.

Iman F Abdul-Husin, Sharafaldin Al-Musawi, Nada Khazal Kadhim Hindi, Samah Ahmed Kadhum, Ayad F Alkaim, Fatima Malik Abood, Huda H. Al-Hasnawy, Mays Hadi Jebur, Hiba Jassim Hamza, Ameera Jasim Al-Aaraji. Evaluation of disincentive effects of 70% isopropyl alcohol and 10% povidone -iodine safety antimicrobial agents of skin. *J Global Pharma Tech.* 2020.

Al-Musawi, S.; Albukhaty, S.; Al-Karagoly, H.; Sulaiman, G.M.; Alwahibi, M.S.; Dewir, Y.H.; Soliman, D.A.; Rizwana, H. Antibacterial Activity of Honey/Chitosan Nanofibers Loaded with Capsaicin and Gold Nanoparticles for Wound Dressing. *Molecules* 2020, 25, 4770. doi: 10.3390/molecules25204770. <https://doi:10.3390/molecules25204770>.

Albukhaty, S.; Al-Musawi, S.; Abdul Mahdi, S.; Sulaiman, G.M.; Alwahibi, M.S.; Dewir, Y.H.; Soliman, D.A.; Rizwana, H. Investigation of Dextran-Coated Superparamagnetic Nanoparticles for Targeted Vinblastine Controlled Release, Delivery, Apoptosis Induction, and Gene Expression in Pancreatic Cancer Cells. *Molecules* 2020, 25, 4721. <https://doi:10.3390/molecules25204721>.

Albukhaty, S.; Al-Musawi, S.; Al-Karagoly.; Abood H. Current therapeutic protocols for COVID-19 and promising nanotechnology solution. *Misan Journal for Academic Researches.* 2020, 1047-1-67.

Al-Musawi, S; Albukhaty, S.; Al-Karagoly, H.; Sulaiman, G.M.; M S Jabir M.S; Naderi-Manesh H. Dextran-coated superparamagnetic nanoparticles modified with folate for targeted drug delivery of camptothecin. *Adv. Nat. Sci: Nanosci. Nanotechnol.* 2020; 11 (4) 045009. <https://doi: 10.1088/2043-6254/abc75b>.

Salim Albukhaty, L. Al-Bayati, H. Al-Karagoly & S. Al-Musawi (2020): Preparation and characterization of titanium dioxide nanoparticles and in vitro investigation of their cytotoxicity and antibacterial activity against *Staphylococcus aureus* and *Escherichia coli*, *Animal Biotechnology*, <https://doi:10.1080/10495398.2020.1842751>.

Al-Kinani, M.A., Haider, A.J. & Al-Musawi, S. High Uniformity Distribution of Fe@Au Preparation by a Micro-Emulsion Method. IOP Conf. Ser.: Mater. Sci. Eng. 2020; 987 012013. <https://doi.org/10.1088/1757-899X/987/1/012013>.

Al-Musawi, S.; Albukhaty, S.; Al-Karagoly, H.; Almalki, F. Design and Synthesis of Multi-Functional Superparamagnetic Core-Gold Shell Coated with Chitosan and Folate Nanoparticles for Targeted Antitumor Therapy. *Nanomaterials* 2020, 11, 1. <https://doi.org/10.3390/nano11010032>.

Al-Musawi, S.; Ibraheem, S.; Mahdi, S.A.; Albukhaty, S.; Haider, A.J.; Kadhim, A.A.; Kadhim, K.A.; Kadhim, H.A.; Al-Karagoly, H. Smart Nanoformulation Based on Polymeric Magnetic Nanoparticles and Vincristine Drug: A Novel Therapy for Apoptotic Gene Expression in Tumor. *Life* 2021, 11, 71. <https://doi.org/10.3390/life11010071>.

Al-Kaabi, W.J.; Albukhaty, S.; Al-Fartosy, A.J.M.; Al-Karagoly, H.K.; Al-Musawi, S.M.; Sulaiman, G.M.; Dewir, Y.H.; Alwahibi, M.S.; Soliman, D.A. Development of Inula graveolens (L.) Plant Extract Electrospun/Polycaprolactone Nanofibers: A Novel Material for Biomedical Application. *Appl. Sci.* 2021, 11, 828. <https://doi.org/10.3390/app11020828>.

Al-Kinani, M.A., Haider, A.J. & Al-Musawi, S. Design and Synthesis of Nanoencapsulation with a New Formulation of Fe@Au-CS-CU-FA NPs by Pulsed Laser Ablation in Liquid (PLAL) Method in Breast Cancer Therapy: In Vitro and In Vivo. *Plasmonics* (2021). <https://doi.org/10.1007/s11468-021-01371-3>.

Abdul Mahdi S, Kadhim AA, Albukhaty S, Nikzad S, Haider AJ, Ibraheem S, Kadhim HA, Al-Musawi S. Gene expression and apoptosis response in hepatocellular carcinoma cells induced by biocompatible polymer / magnetic nanoparticles containing 5-Fluorouracil. *Electron J Biotechnol.* 2021; 52, 21–28. <https://doi.org/10.1016/j.ejbt.2021.04.001>.

Al-Kinani M.A., Haider, A.J, & Al-Musawi, S. Study the Effect of Laser Wavelength on Polymeric Metallic Nanocarrier Synthesis for Curcumin Delivery in Prostate Cancer Therapy: In Vitro Study. *J of Applied Sci & Nanotech.* 2021; 1, 43-50.

Haider, A.J., Al-Kinani, M.A & Al-Musawi, S. Preparation and Characterization of Gold Coated Super Paramagnetic Iron Nanoparticle Using Pulsed Laser Ablation in Liquid Method. *Key Engineering Materials.* 2021. 886, 77-85. doi:10.4028/www.scientific.net/KEM.886.77.

Mahdi, S.A. and Al-Musawi, S. Impact of Al₂O₃ & Fe₃O₄ nanoparticles on genes expression levels on biofilm in Staphylococcus epidermidis. AIP Conference Proceedings; Volume 2437, Issue 1. (2022); doi: 10.1063/5.0093820.

Alnasraui, A.H.F. and Al-Musawi, S. Nanoformulation of intelligence polymeric nanocarrier for resveratrol targeted delivery and study its cytotoxic, apoptotic, and genetics effects in epidermoid carcinoma therapy. AIP Conference Proceedings; Volume 2437, Issue 1. (2022); doi: 10.1063/5.0092330.

Jawad, A. S., Thewaini, Q. N. O., & Al-Musawi, S. Honey/polymeric nanofiber enriched with clove (*Syzygium aromaticum* L.) extract and Al₂O₃ nanoparticles: Antibacterial and in vitro wound healing studies. AIP Conference Proceedings; Volume 2437, Issue 1. (2022); doi: 10.1063/5.0092341.

Almansorri, A. K, Al-Shirifi, H. M. H, Al-Musawi, S*, Ahmed B. B. Investigation of the Inhibition Activity of Aluminum Oxide Nanoparticles for Herpes Simplex Type 1. Archives of Razi Institute, 78:1, 207-213; 2023.

Almansorri, A. K, Al-Shirifi, H. M. H, Al-Musawi, S*, Ahmed B. B. A Novel Application of Zinc Oxide Nanoparticles for Inhibition of Molluscum contagiosum Virus Infection. Archives of Razi Institute, 78:1, 277-285; 2023. DOI:

Almansorri, A. K, Al-Shirifi, H. M. H, Al-Musawi, S*, Ahmed B. B. Inhibition activity of aluminium oxide nanoparticles for herpes simplex type 1. Caspian Journal of Environmental Sciences; 21:1; 125-133; 2023. DOI:10.22124/cjes.2023.6203.

Abdulwahid, F.S., Haider, A.J., Al-Musawi, S.; Iron Oxide Nanoparticles (IONPs): Synthesis, Surface Functionalization, and Targeting Drug Delivery Strategies: Mini-Review; Nano, 2022, 2230007. DOI: 10.1142/S1793292022300079.

Abdulwahid F, S.; Haider, A.J.; Al-Musawi, S. Folate decorated dextran-coated magnetic nanoparticles for targeted delivery of ellipticine in cervical cancer cells. 2023 Adv. Nat. Sci: Nanosci. Nanotechnol. 14 015001. DOI 10.1088/2043-6262/aca606.

Al-Obaidy, R., Haider, A.J., Al-Musawi, S. et al. Targeted delivery of paclitaxel drug using polymer-coated magnetic nanoparticles for fibrosarcoma therapy: in vitro and in vivo studies. *Sci Rep* 13, 3180 (2023). <https://doi.org/10.1038/s41598-023-30221-x>.

Al-Obaidy, R., Haider, A.J., Al-Musawi, S. Calculation and Optimization Methods of SPION Concentration Formation with Different Laser Wavelengths in Liquid. *AIP Conference Proceedings* 2769, 020032 (2023) doi: <https://doi.org/10.1063/5.0129974>.

Abdulwahid, F.S., Haider, A.J., Al-Musawi, S.; Effect of Laser Parameter on Fe₃O₄ NPs Formation by Pulsed Laser Ablation in Liquid. *AIP Conference Proceedings* 2769, 020039 (2023) doi: <https://doi.org/10.1063/5.0129824>.

Adawiya J. Haider, Fatima I. Sultan, Mohammed J. Haider, Bakr Ahmed Taha, Sharafaldin Al-Musawi, Mahdi S. Edan, Chadeer S. Jassim, and Norhana Arsad. Characterization of laser dye concentrations in ZnO nanostructures for optimization of random laser emission performance. *International Journal of Modern Physics B*. 2450111. doi: 10.1142/S021797922450111X.

SF Abbas, AJ Haider, S Al-Musawi. Antimicrobial and Wound Healing Effects of Metal Oxide Nanoparticles Enriched Wound Dressing. *NANO*, 2023. DOI: 10.1142/S1793292023300050.

Alnasraui A H F, Joe I H, Al-Musawi S. Design and synthesise of folate decorated Fe₃O₄@Au-DEX-CP nano formulation for targeted drug delivery in colorectal cancer therapy: In vitro and in vivo studies. *Journal of Drug Delivery Science and Technology*, 78;1, 2023, DOI: 10.1016/j.jddst.2023.104798.

Abbas, S.F., Haider, A.J., Al-Musawi, S. et al. Antibacterial Effect of Copper Oxide Nanoparticles Prepared by Laser Production in Water Against *Staphylococcus aureus* and *Escherichia coli*. *Plasmonics* (2023). <https://doi.org/10.1007/s11468-023-02135-x>.

■ Tenth: Letters of thanks, awards and certificates of appreciation.

| No. | A letter of thanks, award or certificate | The Donor | Year |
|------------|---|--|-------------|
| 1 | Letter of thanks | Al Qasim Green University | 2016 |
| 2 | Letter of thanks | Al Qasim Green University | 2016 |
| 3 | Letter of thanks | Al Qasim Green University | 2016 |
| 4 | Letter of thanks | Al Qasim Green University | 2016 |
| 5 | Letter of thanks | Al Qasim Green University | 2017 |
| 6 | Letter of thanks | Al Qasim Green University | 2017 |
| 7 | Letter of thanks | Ministry of Higher Education and Scientific Research | 2017 |
| 8 | Letter of thanks | Al Qasim Green University | 2017 |
| 9 | Letter of thanks | Al Qasim Green University | 2017 |
| 10 | Letter of thanks | Al Qasim Green University | 2018 |
| 11 | Letter of thanks | University of Babylon | 2018 |
| 12 | Letter of thanks | Al Qasim Green University | 2018 |
| 13 | Letter of thanks | Al Qasim Green University | 2018 |

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| 14 | Letter of thanks | Ministry of Higher Education and Scientific Research | 2018 |
| 15 | Letter of thanks | Al Qasim Green University | 2018 |
| 16 | Letter of thanks | Al Qasim Green University | 2019 |
| 17 | Letter of thanks | University of Technology | 2019 |
| 18 | Letter of thanks | Al Qasim Green University | 2019 |
| 19 | Letter of thanks | Al Qasim Green University | 2019 |
| 20 | Letter of thanks | Al Qasim Green University | 2019 |
| 21 | Letter of thanks | Ministry of Higher Education and Scientific Research | 2019 |
| 22 | Letter of thanks | Al Qasim Green University | 2019 |
| 23 | Letter of thanks | Al Qasim Green University | 2020 |
| 24 | Letter of thanks | University of Technology | 2020 |
| 25 | Letter of thanks | Al Qasim Green University | 2020 |
| 26 | Letter of thanks | Al Qasim Green University | 2020 |

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| 27 | Letter of thanks | Al Qasim Green University | 2020 |
| 28 | Letter of thanks | Ministry of Higher Education and Scientific Research | 2021 |
| 29 | Letter of thanks | Al Qasim Green University | 2021 |
| 30 | Letter of thanks | Al Qasim Green University | 2021 |
| 31 | Letter of thanks | University of Baghdad | 2021 |
| 32 | Letter of thanks | Al Qasim Green University | 2021 |
| 33 | Letter of thanks | Al Qasim Green University | 2022 |
| 34 | Letter of thanks | Al Qasim Green University | 2022 |
| 35 | Letter of thanks | Ministry of Higher Education and Scientific Research | 2022 |
| 36 | Letter of thanks | Al Qasim Green University | 2022 |
| 37 | Letter of thanks | Al Qasim Green University | 2022 |
| 38 | Letter of thanks | Al Qasim Green University | 2023 |
| 39 | Letter of thanks | Al Qasim Green University | 2023 |
| 40 | Letter of thanks | Al Qasim Green University | 2023 |

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| 41 | Letter of thanks | Al Qasim Green University | 2023 |
| 42 | Letter of thanks | Ministry of Higher Education and Scientific Research | 2023 |
| 43 | Letter of thanks | Al Qasim Green University | 2023 |

➤ **Some of the certificates of appreciation and scientific and administrative activities:**

- ✚ A distinguished university professor for the years 2017, 2018, 2020, 2021, 2022, and 2023.
 - ✚ Inclusion in the list of world-class scientists and researchers according to the classification of Ad Scientific index.
 - ✚ Diagnosis and registration of an isoform of the Thioredoxin gene at the US National Center for Biotechnology & Information <http://www.ncbi.nlm.nih.gov/nuccore/HM622264.1>
 - ✚ Identification and registration of an isoform of the Pectate lyase gene at the US National Center for Biotechnology & Information <http://www.ncbi.nlm.nih.gov/nuccore/HQ333522.1>
 - ✚ Evaluation of more than 100 international scientific research in reputable international journals and containers registered within the Web of Sciences classification. <https://www.webofscience.com/wos/author/record/1063555>
 - ✚ Supervision of several master's theses and doctoral dissertations in several universities inside and outside Iraq.
 - ✚ Participation in several discussion committees for MA and PhD students in various universities.
- **Scientific Index (H-Index) in Google Scholar, Scopus, Researchgate and Publons:**

+ Google Scholar H-Index: **17**

+ Scopus H-Index: **15**

+ Research gate H-Index: **15**

+ Publons H-Index: **10**

❖ **Administrative positions and responsibilities:**

+ Department manager in the College of Biotechnology

+ Director of Scientific Affairs and Cultural Relations department

+ Director of Quality Assurance and Academic Performance department

Peer reviewing of more than 141 documents (papers)