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Education 2023 associate pharmacy, LTUC.

2020, 11 courses about Microbiology, Harvard University, USA

2018 Ph.D., Plant Protection, The Jordan University, Amman, Jordan

Part of my thesis at Aristotle University of Technology, Department of Chemistry, Thessaloniki, Greece

2007 M. Sc., Plant Protection, Jordan University of Science and Technology, Irbid, Jordan.

2003 B. Sc., Plant Protection, The Jordan University, Amman, Jordan

Professional Experience

2019- 2020	Assistant Professor of Microbiology and Nanotechnology, Department of Pharmacy, Pharmacy School, Aqaba University of Technology, Aqaba, Jordan
2016-2018	Teaching Assistant, The University of Jordan, Amman.
2016-2018	Supervisor, Student's Projects for Intel Price, Jordan
2005-2007	Teaching Assistant, Jordan University of Science and Technology, Irbid, Jordan
2003	Researcher training, The University of Jordan, Amman, Jordan

PhD Thesis: Effect of Green Synthesized Nanomaterials on Green Peach Aphid, *Myzus persicae* Sulzer (Homoptera: Aphididae)

The synthesis of nanomaterials of copper oxide (CuO), zinc oxide (ZnO), magnesium hydroxide (MgOH) and magnesium oxide (MgO) is considered to be a successful way of synthesis by using aqueous extracts of *Punica grantum* peels, *Olea europea* leaves and *Chamaemelum nobile* flowers from copper sulfate, zinc sulfate and magnesium sulfate. The synthesized nanoparticles were characterized by UV-visible spectroscopy (UV-vis), scanning electron microscopy (SEM), energy dispersive X-ray spectroscopy (EDS), transmission electron microscopy (TEM) and fourier transform infrared spectroscopy (FT-IR). SEM and TEM analysis showed that the particles were spherical and the size of the particles ranged from 5 nm to 80 nm. The screening of synthesized bio-nanoparticles revealed that these nanoparticles were effective in increasing the mortality percent of green peach aphid, *Myzus persicae* Sulzer (Homoptera : Aphididae).

After the glasshouse experiments, the metals oxide nanoparticles accumulations were analyzed in the fruits and leaves of green sweet pepper. The results showed that there was no any metal accumulation in any of the plant fruits. From this study, it is concluded that the biosynthesized metal oxide nanoparticles have controlled the green peach aphid. Magnesium hydroxide bio nanoparticles synthesized were the best control to *M. persicae* compared to other synthetic nanoparticles. Hence, it would be the best against *M. persicae* environmentally. Foliar spray by synthesized nanoparticles for green pepper leaves revealed that the foliar spraying leaves with 100-800 ppm metal nanoparticles are very beneficial to plant growth and produced healthy plants with greener leaves (high chlorophyll contents) and high fruit quality compared to the control.

Research Interest

- Nanomaterials Synthesis
- Nanomaterials Characterization
- Natural Products Research
- Nano-medicine
- Diabetes and its prevention
- Anti-cancer
- Antimicrobial Activity

Academic awards

1. Internships Award and Best Researcher Award in **Nanomedicine**, 2020, India.
2. Innovation in Education Award, 2019, International Award , India.
3. Leadership Award and Best Researcher Award in **Nanomedicine**, 2019, International Award, India.
4. **Guinness** Record, Nanosatellite Project at Kingdom Saudi Arabia.
5. Awarded for Scientific Day (Best Student in Research) presented by Prof. Azmi Mahafzah, Head of the institution, The University of Jordan, 2018.
6. **Outstanding student award** presented by Prof. Waleed Al-Ma'ani, Head of the institution, The University of Jordan- 2001.

7. Friendship Award presented by England Government Under supervision of Prof. Sawsan Al-Majali, 2001.
8. Awarded best for (School student in volunteering)_Alsabelah Award, presented by his Highness Prince Al-Hassan. 1997.

Funded Projects

- 1- Shoman Foundation, **20,000 JD**, (2020- 2022), Nanomaterials as Anticancer.
- 2- Higher Education and Scientific Research (from Government), (2020-2022), **20,000 JD**,Nanomaterials as Anticancer and Antibacterial Activity.
- 3- Higher Education and Scientific Research (from Government), (2020-2022), **30,000 JD**, Nanomaterials as Anticancer and Antibacterial Activity.

Publications

1. Sankaran, V., Murali, S. K., **Ghidan, A.**, Al Antary, T., & David, E. (2020). Oral cancer preventive potential of Polydatin: A nanoencapsulation approach. Journal of Phytology, 12, 109-116.
2. **Alaa Yousef Ghidan** and Huda Y Ghidan, Pharmacology : Novel experimental work on animals: Law and ethics' perspective, Journal of Applied and Advanced Research 2020:5, 19-23.
3. **Ghidan, A. Y.**, Ghethan, F. Y., Alghanmi, M., Sangeetha, C. C., David, E., Hadadin, M. S., & Mohammad, M. Y. (2020). Global impact and clinical management of severe respiratory syndrome coronavirus-2 (COVID-19). Journal of Applied and Advanced Research, 5, 11-18.
4. Krithiga Balakrishnan, Sangeetha C. Casimeer, **Alaa Yousef Ghidan**, Fatima Yousef Ghethan, Karthikkumar Venkatachalam & Anbu Singaravelu. Bioformulated Hesperidin-Loaded PLGA Nanoparticles Counteract the Mitochondrial-Mediated Intrinsic Apoptotic Pathway in Cancer Cells. Journal of Inorganic and Organometallic Polymers and Materials (September 16,2020).
<https://doi.org/10.1007/s10904-020-01746-9>.

5. Ramachandran Vinayagam, Arokia Vijaya Anand Mariadoss, Ernest David, Karthikkumar Venkatachalam, Shalini Vijayakumar, Vijayalakshmi Sankaran, Agilan Balupillai, Sangeetha Casimeer C, Senthilraja Poomalai, KM Gothandam, Venkata Subbaiah Kotakadi, **Alaa Y Ghidan**, Tawfiq M Al-Antary. Antidiabetic Activity of Gold Nanoparticles Synthesized Using Wedelolactone in RIN-5F Cell Line. *Antioxidants* 2020, 9(1), 8.
6. Mariadoss ArokiaVijaya Anand, Vinayagam Ramachandran, Shalani Vijayakumar, Franklin Jebaraj Herbert, Sanjay Kumar, **Alaa Y Ghidan**, Tawfiq M Al-Antary, Ernest David. Green Synthesis, characterization and antibacterial activity of silver nanoparticles by *Malus domestica* and its cytotoxic effect on (MCF-7) cell line. *Microbial Pathogenesis* 2019;135:103609.
7. Abdel-Monnem Kahlel, **Alaa Y Ghidan**, Tawfiq A Al-Antary, Ibraheem A Alshomali, H Asoufy. Effects of nanotechnology liquid fertilizers on certain vegetative growth of broad bean (*Vicia faba* L.). *Fresenius Environmental Bulletin* 2020, 29 (6),4763-4768.
8. **Alaa Y Ghidan**, Abdel-Monnem Kahlel, Tawfiq A Al-Antary, H Asoufi. Efficacy of nanotechnology liquid fertilizers on weight and chlorophyll of broad bean (*Vicia faba*) L. *Fresenius Environmental Bulletin* 2020, 29 (6) ,4793-4789.
9. Tawfiq A Al-Antary, Abdel-Monnem Kahlel, **Alaa Y Ghidan**, H Asoufy. Effects of nanotechnology liquid fertilizers on fruit set and pods of broad bean (*Vicia faba* L.). *Fresenius Environmental Bulletin* 2020 ,29(6) 4794-4798.
10. **Alaa Y Ghidan**, Abdel-Monnem S Kahlel, Tawfiq M Al-Antary, Effect of nanotechnology liquid fertilizers on yield and nitrogenous compounds of broad bean (*vicia faba* L.), *Fresenius Environmental Bulletin* 2020,29(6),4124-4128.
11. **Ghidan A Y**, Al-Antary TM, Awwad AM, Ghidan OY, Araj SEA, Ateyyat MA. Comparison of different green synthesized nanomaterials on green peach aphid as aphicidal potential. *Fresenius Environmental Bulletin* 2018, 27(10):7009-7016.
12. **Alaa Y Ghidan**, Tawfiq M. Al Antary, Akl M Awwad , Jamal Y Ayad. Physiological effect of some nanomaterials on pepper (*Capsicum annuum* L.) Plants. *Fresenius Environmental Bulletin* 2018, 27(11):7872-7878.
13. **Alaa Y Ghidan**, Tawfiq M Al Antary, Huda Y Ghidan. Novel experimental work on non- beneficial insect: the role of Islamic law. *Fresenius Environmental Bulletin* 2018, 27(12A): 9414-9419.
14. **Alaa Y. Ghidan**, Tawfiq M. Al-Antary, Nida M. Salem, and Akl M. Awwad. Facile Green synthetic route to the zine oxide (ZnONPS) nanoparticles: effect on green

peach aphid and antibacterial activity. Netherland Journal of Agricultural Science 2017, 9 (2), 131-138.

15. **Alaa Y. Ghidan**, Tawfiq M. Al-Antary, Akl M. Awwad, and Muhand Akash. Aphicidal potential of green synthesized magnesium hydroxide nanoparticles using *Olea europaea* leaves extract. ARPN Journal of Agricultural and Biological Science 2017, 7(10) 292 – 301.
16. **Alaa Y. Ghidan**, Tawfiq M. Al-Antary, and Akl M. Awwad. Green synthesis of copper oxide nanoparticles using *Punica granatum* peels extract: Effect on green peach aphid. From Environmental Nanotechnology, Monitoring and Management 2016, 6 (12): 95-98.

Book Chapter

1. **Alaa Y. Ghidan** and Tawfiq M. Al Antary, Applications of Nanotechnology in Agriculture. In book: Applications of Nanobiotechnology; Publisher: Intech Open 2019; DOI: 10.5772/intechopen.88390.

Papers presented in Conference/ Symposium/ Seminar/ Webinars

1. Synthesis and Characterization for Different nanomaterials and its Nanomedicine Application as Antimicrobial and Anticancer Activity, Webinar on **Pharmaceutical Nanotechnology**, France, Paris. Scientist Dr. **Alaa Yousef Ghidan**, September 22, 2020.
2. Medication Safety Update During COVID-19, Webinar on Pharmaceutical Nanotechnology, France, Paris., Fatima Y Ghithan, **Alaa Y Ghidan** and Mohammad Alganmi , September 22, 2020.
3. Application of Nanotechnology, Nanotechnology is the Future of our Life, International Webinar, **Alaa Yousef Ghidan**, August, 2020.
4. Application of Nanotechnology, International Webinar, Egypt, **Alaa Y Ghidan**, August ,2020.
5. Education in the Era of Digitization, Nanosatellite Project, **Alaa Y Ghidan** and Ali Almagar, May 2020.
6. Workshop “How to write a Proposal”, 2019, ICGEB Awareness, Dean of Medicine School and ICGEB Jordan Representative, International Workshop.

7. Methodology of Scientific Research, The Euro-Arab Organization for Environment, Water and Desert Research (2018).
8. Paper (Green Synthesis of Magnesium Oxide MgONPs nanoparticles Using *Chamaemelum nobile* flowers Extract: Effect on Green Peach Aphid) presented the 3rd International Nanotechnology Conference and Expo in Italy (2018). Madridge Journal Nanotechnology Science, 3 (2): 67.
9. Paper presented in the Eighth Scientific Agricultural Conference (ESAC-2018) Position in Mut'ah University, Karak, Jordan.
10. Paper (*Effect of saline water irrigation and growing media on growth, physiological and mineral parameters*) presented in the Eighth Scientific Agricultural Conference (ESAC-2018) Position in Mut'ah University, Karak, Jordan.
11. Paper (*Green synthesis of Magnesium Hydroxide Mg(OH)₂ nanoparticles and Magnesium Oxide (MgONPs) using Olea europea leaf extract*) presented in the 2nd International Nanotechnology Conference and Expo in Dubai (2017). Madridge Journal Nanotechnology Science, 2(2): 18.
12. Paper (*Facile Green Synthetic Route to the Zinc Oxide (ZnONPs) Nanoparticles: Effect on green peach aphid*) presented in 22^{ed} International Conference and Expo on Nanoscience and Molecular Nanotechnology in Germany (2017).

Scientific Skills

Phytochemical studies

- Plant extraction and Fraction with column chromatography
- Active compound identification in HPTLC & TLC
- Measurement of in vitro free radical scavenging assays
- Bioformulation of nanoparticles

Molecular Biology

- DNA, RNA isolation, SDS-PAGE,
- Western blot analysis
- Cytogenetic techniques

Techniques exposure

- UV-spectrofluorimetry, colorimetric/UV spectrophotometer technique for the assay of enzyme activity and various biochemical parameters.

Research guidance

- Guided Doctoral, Pre-Doctoral and post-graduate students for M.Sc. dissertation in **Nanomedicine** field.
- Designed and executed several *in vitro* and *in vivo* experiments.

Editorial Assistance

- Drafted several research manuscripts.
- Contributed in the writing of research proposals.
- Data analysis by employing various software tools.

Computer Skills

- Microsoft Office

- Database searching
- Statistical software, SPSS, Origin
- Artificial Intelligence

Personal Information

- **Date of Birth** : 12th September 1980
- **Nationality** : Jordanian
- **Marital Status** : Married
- **Passport No** : Q127058

References

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