CURRICULUM VITAE

Name: **Prof. Dr. Abdulaziz A. Al-Khedhairy, Ph.D**

Expertise: Biochemistry and Molecular Biology

Present Positions: Professor of Zoology, Department of Zoology, King Saud University, Riyadh, Saudi Arabia

Academic Qualifications

Ph.D: Molecular Neurology - Biochemistry Department, Queens Medical Centre, Nottingham University, UK (1995).

Bachelor: Biology - King Saud University, Riyadh, Saudi Arabia (1990).

Research Funds

- PI in the project entitled "Characterisation of presenilin-1 cDNA of rabbit" (funded by King Abdulaziz City for Science and Technology, KACST, 2000).
- PI in the project entitled "Characterisation of presenilin-1 cDNA of Arabian camel" (funded by KACST, 2002).
- PI in the project entitled "Determination of point mutations in presenilin-1 from Saudi patients affected with Alzheimer disease" (funded by KACST, 2001).
- Co-I in the project entitled "Inherited Immunodeficiency Disease Caused by Defects in Purine Metabolism in Saudi Population: A Genetic Engineering Study" (funded by KACST, (2001).
- PI in the project "entitled Extraction, Authentication and Preservation of Animal Genomes (DNA) from local habitat" (funded by King Saud University, 2004).
- PI in the project entitled "Assessment of DNA Damage and Toxicological Potential of Nanoparticles" (funded by NPST, KACST, 2010-2013).
- PI in the research project entitled “Effects of polybrominated flame retardants from electronic waste on the cellular DNA and carcinogenesis. Funded by the National Plan for Science and Technology, KACST/KSU, Riyadh, SA vide Sanction No. 10-ENV1314-02. (April 2012-2014).
- PI in the project entitled “ Development of Nanobiosensors for Rapid Detection and Diagnosis of Brucellosis” Funded by the National Plan for Science and Technology, KACST/KSU, Riyadh, SA vide Sanction No. 12-NAN2490-02.(2013-2015).
- Co-PI in the research project entitled “Bioprospection of Arabian Medicinal Plants as Antiglycation Agents for the Development of a Novel Molecular Therapeutic Approach for Diabetes”. Funded by the National Plan for Science and Technology, KACST/KSU, Riyadh, SA vide Sanction No. 12-MED2491-02.(2013-2015).

Appointments and Memberships Awards

- Director, Twasol Research Excellence Program (2016 – 2017).
- Dean of Community College, King Saud University, Riyadh, Saudi Arabia (2012-2016).
- KSU Assistant Vice-President for Graduate Studies and Research (Research Affairs)
- (2010-2012)
- KSU advisor for research affairs, Vice-Rectorate for Graduate Studies and Research (2009-2010).
- Member of KSU Committee for Excellence Awards for Research (2010-2012).
- Member of Steering Committee for First Gulf Conference on Scientific Research (2010).
- Member of Saudi Biological Society
- Member of Union of Arab Biologists.
- Director, Abdul Rahman Al-Jeraisy Chair for DNA Research (2009-Present).
- Editorial Board member of Arab Biotechnology, Egypt (2009-2010).
- KSU Research Top Rank for Excellence in research (Fifth) for 2009.
- Member of Science, College Academic Accreditation board (2007 – 2009).
- Member of scientific committee, Centre of Excellence in Biotechnology Research, KSU (2007 – 2009).
- Professor – Zoology Department – Science College, King Saud University, Riyadh, Saudi Arabia (2006– Present).
- Associate Professor – Zoology Department – Science College, King Saud University, Riyadh, (2002-2006).
- Editor-in-chief of Biology Magazine (Alam Alhyah), Saudi Biological Society, (2004 – 2007).
- Research consultant – Ministry of Social Affairs (2002).
- Visiting professor, Higher Institute for Security Sciences (NAUSS), Forensic Science Department, March - May, 2008.
- KACST Golden Award for Excellence in Research, Riyadh, Saudi Arabia (2006).
- Assistant Professor – Zoology Department – Science College, King Saud University, Riyadh, (1998-2002).
- Assistant Professor – King Khalid Academy, Riyadh, Saudi Arabia (1995-1998).
- Research visitor, Genetic Engineering and Biotechnology Program, (KACST), (1996 -1997).
- Visiting professor, Naeif Arab University for Security Sciences (NAUSS), Nov., 1999.
- Research Fellow – King Khalid Academy, Riyadh, Saudi Arabia (1990-1995).

Book Chapter List:

1. Rizwan Wahab, Farheen Khan, Nagendra K. Kaushik, Javed Musarrat and Abdulaziz A.Al-Khedhairy, Construction of Nanostructures: A Basic Concept Synthesis and Their

Applications. (2014) *In*, Advanced Sensor and Detection Materials. Editor: Ashutosh Tiwari, Mustafa M. Demir. http://eu.wiley.com/WileyCDA/WileyTitle/productCd-1118773489.html , ISBN: 978-1-118-77348-2.

2. Farheen Khan, Rizwan Wahab, Mohd. Rashid, Asif Khan, Asma Khatoon, Javed Musarrat and Abdulaziz A.Al-Khedhairy. The Use of Carbonaceous Nanomembrane Filter for Organic Waste Removal (2014) *In* Application of Nanotechnology in Water Research. Editors: Ajay Kumar Mishra. http://eu.wiley.com/WileyCDA/WileyTitle/productCd-1118496302.html. ISBN: 978-1-118-49630-5

3. Rizwan Wahab, Farheen Khan, Javed Musarrat, and Abdulaziz A.Al-Khedhairy. Role of Smart Nanostructured Materials in Cancers (2013) *In,* Responsive Materials and Methods: State-of-the-Art Stimuli-Responsive Materials and Their Applications. Editor: Ashutosh Tiwari. http://eu.wiley.com/WileyCDA/WileyTitle/productCd-1118686225.html.ISBN: 978-1-118-68622-5

4. Rizwan Wahab, I. H. Hwang, Hyung-Shik Shin, Young-Soon Kim, Javed Musarrat, Abdulaziz A. Al-Khedhairy and Maqsood A. Siddiqui. Zinc Oxide Nanostructures and their Applications (2012) *In,* Intelligent Nanomaterials: Processes, Properties, and Applications. Editor: Ashutosh Tiwari, Ajay K. Mishra, Hisatoshi Kobayashi, Anthony P.F. Turner. http://onlinelibrary.wiley.com/book/10.1002/9781118311974
ISBN: 9780470938799

Book List

1. Javed Musarrat, Almaz Zaidi, Mohammad S. Khan, Maqsood A. Sidique and **Abdulaziz A. Al-Khedhairy**. Genotoxicity Assessment of Heavy Metal–Contaminated Soils (2011) *In,* Biomanagement of Metal-Contaminated Soils. Editor: Khan, M.S., Zaidi, A., Goel, R., Musarrat, http://www.springer. com/la/book/9789400719132, ISBN 978-94-007-1914-9

2. Javed Musarrat, Sourbah Dwivedi, Brag Rag Singh Quaiser Saquib and **Abdulaziz A. Al-Khedhairy**. (2011) *In,* Microbes and Microbial Technology, Agricultural and Environmental Applications. Editor: **Ahmad**, Iqbal, **Ahmad**, Farah, **Pichtel**, John. http://www.springer.com/la/book/9781441979308,
ISBN 978-1-4419-7931-5

Patent: Inventors: Abdulaziz A. Alkhedhairy, Javed Musarrat, Patent Title: Methods for producing silver nanoparticles, Patent number: USPTO#: 9216455 (2015)

Publications # More than 250

Latest Publications:

1. Wahab R, Khan F, Alam M, Ahmad J, **Al-Khedhairy AA**. An efficient and responsive electrochemical nanosensor for the detection of dopamine via oxide-based nanoparticles. Journal of King Saud University–Science. 2026 Jul 13; 38: 892026
2. Chaudhary DK, Acharya TR, Lamichhane P, Shrestha R, Joshi SK, Gautam S, Kaushik N, Wahab R, **Al-Khedhairy AA**, Woodward S, Kaushik NK. Unlocking high ethanol sensitivity in ZnO thin films via thickness modulation using low-cost fabrication. Radiation Physics and Chemistry. 2026 Mar 6:113783.
3. Khan S, Alam M, Islam MA, Jawed A, Siddiqui MA, **Al-Khedhairy AA**, Nasibullah M. Isatin-Acenaphthoquinone Derived tetra-Schiff Base: Synthesis, Molecular Docking, Molecular Dynamics Simulation and Cytotoxic Potential in MCF-7 Breast Cancer Cells. Chemistry & Biodiversity. 2026 Mar; 23(3):e01643.
4. Acharya TR, Negi M, Lamichhane P, Jaiswal A, Dhakal OB, Gautam S, Park J, Wahab R, **Al-Khedhairy AA**, Kaushik N, Choi EH. Green Synthesis of Chitosan-Functionalized Silver Nanoparticles Using Non-Thermal Plasma as Biocompatible Antimicrobials Against Multidrug-Resistant Pathogens. Chemical Engineering Journal Advances. 2025 Dec 23; 25:101010.
5. Wahab R, Khan F, Al-Otaibi W, Alam M, Ahmad J, Saquib Q, **Al-Khedhairy AA**. Rapid, efficient, and sensitive electrochemical nanosensors for the detection of creatinine biomolecule. Materials Science in Semiconductor Processing. 2026 Feb 1; 202:110099.
6. Saurav S, Sharma P, Mohan A, Kumar A, Heer A, Siddiqui MA, **Al-Khedhairy AA**, Malik T, Girdhar M. Synergistic reinforcement of regenerated silk fibroin with LAPONITE® and organomodified montmorillonite for bone tissue engineering. New Journal of Chemistry. 2025;49(39):17005-22.
7. Siddiqui MA, Ahamed M, Saquib Q, Ahmad J, Farshori NN, Al-Sheddi ES, Al-Oqail MM, Al-Massarani SM, **Al-Khedhairy AA**. Copper–Iron Oxide Nanoparticles Induce Apoptosis and Cell Cycle Arrest in Human Airway Epithelial Cells via Oxidative Stress and ROS Generation. Journal of Applied Toxicology. 2026 Feb;46(2):708-18.
8. Ansari SM, Saquib Q, Alwathnani HA, Alharbi SA, Shaik MR, Kuniyil M, Adil SF, Siddiqui MA, Ahmad J, Wahab R, Ahmad SF, **Al-Khedhairy, AA**. One-pot green synthesis of platinum nanoparticles (Pt-NPs) using Sargassum polyphyllum extract displays nanodrug prospects against human cervical, breast, and colon cancer cells. Algal Research. 2025 Aug 26; 91:104278.
9. Hassan F, Ansari WA, Sheikh SY, Khan MF, Faruqui T, Azad I, Siddiqui MA, **Al-Khedhairy AA**, Khan AR, Nasibullah M. Exploration of novel azole-quinoline hybrids as LdNMT inhibitors using in-silico approach; molecular docking, DFT, molecular dynamics simulations, MMGBSA and ADMET. Results in Chemistry. 2025 May 1; 15:102303.
10. Singhal A, Meghwal GP, Jaiswal A, Kaushik N, Kumari A, Fahmi N, Wahab R, Patel DD, **Al-Khedhairy AA**, Meena P, Kaushik NK. The dual role of bio-inspired palladium nanoparticles in antibacterial action and wound healing: An in vitro and in vivo study. Journal of King Saud University–Science. 2025 Jun 2;37(2): 3552024.

11. Bashir S, Siddiqui MA, **Al-Khedhairy AA**, Girdhar M, Malik T, Kumar A, Mohan A. Herbicide-induced alterations in hemp fiber: A comparative analysis of strength and morphology. Journal of Engineered Fibers and Fabrics. 2025 Feb; 20:15589250251319321.