MAQUSOOD AHAMED Ph.D.

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Professor
Nanomedicine & Nanotoxicology Lab
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Web of Science Researcher ID: R-8619-2017
Scopus ID: 15041853700
Google Scholar Link: https://scholar.google.com/citations?user=OBfQYvEAAAAJ&hl=en

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Current Research Interest

Our current research interest is in investigating the application of nanostructured materials in biomedical fields, such as cancer therapy and antimicrobial activity, while assessing their potential risks and toxicological effects on human and environmental health. Owing to their unique physicochemical properties, nanoscale materials may cause biological consequences, including inflammation, free oxygen radical generation, oxidative stress, and ultimately apoptosis. Such knowledge will not only improve nanoscale material safety strategies for the protection of both human and environmental health, but it will also aid in the development of biomedical applications of nanostructures.

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Academic/Research Experience (>20 years)

Nov 2022- Present- **Professor,** King Abdullah Institute for Nanotechnology, King Saud University, Riyadh, Saudi Arabia

Oct 2017- Oct 2022- **Associate Professor,** King Abdullah Institute for Nanotechnology, King Saud University, Riyadh, Saudi Arabia

Feb 2010- Sep 2017- **Assistant Professor,** King Abdullah Institute for Nanotechnology, King Saud University, Riyadh, Saudi Arabia

Oct 2007-Jan 2010- **Research Scientist,** Centre for Tissue Regeneration and Engineering, Department of Biology, University of Dayton, Ohio, USA

May 2005-Sep 2007 - **Senior Research Fellow**, Indian Institute of Toxicology Research (Formerly known as Industrial Toxicology Research Centre), Lucknow, India

May 2003-April 2005- **Junior Research Fellow**, Indian Institute of Toxicology Research (Formerly known as Industrial Toxicology Research Centre), Lucknow, India.

Oct 2002-March 2003-Project Fellow, Centre for Cellular and Molecular Biology, Hyderabad, India

Education

Ph.D. **Biochemistry** in 2007 from Jamia Hamdard (Hamdard University), New Delhi, India. Thesis title "Environmental exposure to leas and assessment of associated health risks among children". Supervisor- Dr. M.K.J. Siddiqui Co-Supervisor: Waseem Siddiqui

M.S. **Biotechnology, 1st Division** in 2001 from V.B.S. Purvanchal University, Jaunpur, India. Thesis title "Genetic diversity within and between two endogamous populations". Thesis Supervisor: Dr. Lalji Singh Co-supervisor: Dr. D.D. Dubey

B.S. **Chemistry, Zoology and Botany 1st Division** in 1997 from V.B.S. Purvanchal University, Jaunpur, India

International Awards and Recognitions

2024 **Listed in World Top 2% Scientists by Stanford University, USA**

2023 **Listed in World Top 2% Scientists by Stanford University, USA**

2022 **Listed in World Top 2% Scientists by Stanford University, USA.**

2021 **Listed in World Top 2% Scientists by Stanford University, USA**

2020 **Listed in World Top 2% Scientists by Stanford University, USA.**

2018 **Highly Cited Researcher-2018 by Clarivate Analytics. https://hcr.clarivate.com/**
Subject: Pharmacology & Toxicology

2017 **Highly Cited Researcher-2017 by Clarivate Analytics. https://hcr.clarivate.com/**
Subject: Pharmacology & Toxicology

2017 **King Saud University Award for Scientific Excellence**
Category: Best Research Quality, Subject: Science and Engineering
(The award was conferred by the Governor of Riyadh, Saudi Arabia)

2007-08 Recipient of **Oakridge Associated Universities (ORAU)** Postdoctoral Fellowship, USA

2006 Recipient of **International Travel Grant Award** from Council of Scientific Industrial Research (CSIR), Government of India

2005-07 Recipient of **Senior Research Fellowship Award** from Council of Scientific Industrial Research (CSIR), Government India

2003-05 Recipient of **Junior Research Fellowship Award** from Council of Scientific Industrial (CSIR), Government of India

2004: Recipient of **Best Poster Award** in International Conference on Health, Occupation and Environment in Unorganized Sector- Problems and Road Maps, 2004 (ICHOE-2004), Indian Institute of Toxicological Research Centre (IITR), India.

2002 Qualified **National Eligibility Test (NET) for Lectureship and Junior Research Fellowship** conducted jointly by Council of Scientific Industrial Research-University Grant Commission (**CSIR-UGC**), Government of India (I was one of the top ranked candidates in this highly competitive national level examination)

2002 Second Position in Order of Merit of Master's Degree Program at University Level

1994 First Position in Order of Merit of 10+2 Examination at School Level

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Current Teaching

MSc in Nanoscience and Applied Nanotechnology Joint Program Nanotoxicology
Courses Code: NAN522

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Supervisions

- Supervising several undergraduate and Master Students every year.
- Co-supervision Ph.D. student: **ZabnAllah M. Alzairi (Student ID: 437105687**), Registered at Department of Physics and Astronomy, King Saud University. Title: Improvement of Physicochemical Properties of Metal-Doped Oxide Nanoparticles and Graphene-Based Nanocomposites for Diagnostic and Therapy Applications. Year 2019-2024.
- Co-supervision of Master Student: **Essa Awad Al-Harbi (Student ID: 431105465**). Registered at Department of Physics and Astronomy, King Saud University. Thesis title: Synthesis, Physiochemical characterization and biological response of iron oxide nanoparticles. Year: 2013-2015.

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Regular reviewers for the Journals: Scientific Reports, Nanomedicine: NBM, Nanomedicine (Lond.), International Journal of Nanomedicine, Environmental Science & Technology, Nanoscale, Toxicology, Environmental Toxicology, Archives of Environmental Contamination & Toxicology, Environmental Health, Archives of Gynecology & Obstetrics, Science of the Total Environment, Clinica Chimica Acta, Clinical Biochemistry, Human and Experimental Toxicology, Toxicology International, Chemosphere and Journal of Nanoparticle Research, etc.

External Funding for Nanomedicine & Nanotoxicology Lab

Project #1
Title: Determination of genotoxicity of engineered nanomaterials
Role: Principal Investigator
Funding agency: National Plan for Science and Technology (NPST), Riyadh, Saudi Arabia
Project Number: 10-NAN1201-02
Duration: August 2011- July 2013.
Budget: Saudi Riyal 1.5 Million
Status: Completed

Project #2
Title: Toxicity of nanomaterials
Role: Co-Investigator
Funding Agency: Deanship of Scientific Research, King Saud University, Riyadh, Saudi Arabia
Research Group Number: RGP-VPP-308
Duration: From 2013- 2017
Budget: Saudi Riyadh 150,000 annually

Project #3
Title: Exploring the mechanisms of preferential killing of cancer cells by engineered zinc oxide nanomaterials: Potential implications in cancer therapy
Role: Principal Investigator
Funding agency: National Plan for Science, Technology, and Innovation (MAARIFAH), King Abdulaziz City for Science and Technology, Kingdom of Saudi Arabia.
Project Number: 13-NAN908-02
Duration: Recommended
Budget: Saudi Riyal 2.0 Million
Status: Completed

Project #4
Title: Nanobiology
Role: Principle Investigator
Funding Agency: Deanship of Scientific Research, KSU, Riyadh, Saudi Arabia
Research Group Number: RG-1439-72
Budget: SR 150,000 annually
Status: Completed

Project #5

Title: Biomedical application of Nanocomposites
Role: Principle Investigator
Funding Agency: IFKSU-Phase II, Deanship of Scientific Research, KSU, Riyadh, Saudi Arabia
Year: 2022-2023
Status: Completed

Project #6

Title: Anticancer potential of green synthesized nanocomposites
Role: Principle Investigator
Funding Agency: IFKSU-Phase III, Deanship of Scientific Research, KSU, Riyadh, Saudi Arabia
Year: 2023
Status: Continuing

Peer Reviewed Journal Publication (WOS indexed)

Year 2024

195. ZabnAllah M. Alaizeri, Hisham A. Alhadlaq, Saad Aldawood, **Maqusood Ahamed**, SnO2-TiO2/reduced graphene oxide nanocomposites: Green synthesis and enhanced photocatalytic efficiency for dye removal. **Journal of Radiation Research and Applied Sciences**, Volume 17, Issue 4, 2024, 101181. https://doi.org/10.1016/j.jrras.2024.101181

194. ZabnAllah M. Alaizeri, Hisham A. Alhadlaq, Saad Aldawood, Maqusood Ahamed. Synthesis and Characterization of MgO-Fe2O3/γ-Al2O3 Nanocomposites: Enhanced Photocatalytic Efficiency and Selective Anticancer Properties. *Catalysts* 2024, *14*(12), 923.https://doi.org/10.3390/catal14120923

193. Mohd Javed Akhtar, **Maqusood Ahamed**, Sudhir Kumar, Rashid Lateef, Zabn Alaizeri, Hisham Alhadlaq, Pavan Rajanahalli, Oxidants-induced high levels of nitric oxide impair the antioxidative property of molybdenum nanoparticles in HUVE cells, **Journal of King Saud University - Science**, Volume 36, Issue 11, 2024, 103525, https://doi.org/10.1016/j.jksus.2024.103525.

192. **Maqusood Ahamed***, Mohd Javed Akhtar, Cytotoxic effect of polystyrene nanoplastics in human umbilical vein endothelial cells (HUVECs) and normal rat kidney cells (NRK52E), **Journal of King Saud University - Science**, Volume 36, Issue 11, 2024, 103505. https://doi.org/10.1016/j.jksus.2024.103505

191. M.A. Majeed Khan, Poonam Nain, Sushil Kumar, Anees A. Ansari, **Maqusood Ahamed**, Mohammed Shahabuddin. Improved photocatalytic and electrochemical activities of (Nd^{3+}, Yb^{3+}) co-doped TiO_2 nanoparticles synthesized by hydrothermal protocol. **Journal of Material Science: Materials in Electronics 35**, 2149 (2024). https://doi.org/10.1007/s10854-024-13904-7

190. Rashid Lateef, Israr Ahmad, Abbas A Mahdi, Neha Lohia, Hisham A. Alhadlaq, Mohd Javed Akhtar, **Maqusood Ahamed***. (2024). Toxic Effects of Synthesized Bismuth Oxide/Reduced Graphene Oxide (Bi_2O_3/RGO) Nanocomposites in Two Distinct Mammalian Cell Lines: Role Oxidative Stress and Apoptosis. **International Journal of Nanomedicine**, *19*, 12655–12674. https://doi.org/10.2147/IJN.S489874

189. ZabnAllah M. Alaizeri, Hisham A. Alhadlaq Saad Aldawood and **Maqusood Ahamed**. Chemical synthesis, characterization, and anticancer potential of CuO/ZrO_2/TiO_2/RGO nanocomposites against human

breast (MCF-7) cancer cells. **RSC Advances** 2024,14**,** 37697-37708. https://doi.org/10.1039/D4RA07039A

188. M. A. Majeed Khan, Manjeet Pawar, Anees A Ansari, **Maqusood Ahamed**, Sushil Kumar, Mohammed Shahabuddin. Boosted photocatalytic and electrochemical activity of hydrothermally synthesized WO3 nanoparticles co-doped with transition elements (Mn, Co). **Materials Science and Engineering: B Volume 307, September 2024, 117541.** https://doi.org/10.1016/j.mseb.2024.117541

187. ZabnAllah M. Alaizeri, Hisham A. Alhadlaq, Saad Aldawood, Mohammed ALSaeedy, **Maqusood Ahamed**. Green hydrothermal synthesis and characterization of Ag_2O-supported MgO/rGO nanocomposites by using Phoenix leaf extract: a promising approach for enhanced photocatalytic and anticancer activities. **Environmental Science and Pollution Research Volume 31, June 2024, 44136-44149.** https://doi.org/10.1007/s11356-024-33998-0

186. M. A. Majeed Khan, Kamaldeep Punia, Anees A Ansari, **Maqusood Ahamed**, Sushil Kumar. Enhancement in photocatalytic and electrochemical performance of hydrothermally synthesized β-Bi_2O_3 via Ni incorporation. **Materials Chemistry and Physics Volume 318, May 2024, 129275.** https://doi.org/10.1016/j.matchemphys.2024.129275

185. M. A. Majeed Khan, Saruchi Rani, Anees A. Ansari, **Maqusood Ahamed**, Jahangeer Ahmed, Sushil Kumar, Abu ul Hassan S. Rana. Anchoring Ceria Nanoparticles on Reduced Graphene Oxide and Their Enhanced Photocatalytic and Electrochemical Activity for Environmental Remediation. **Journal of Electronic materials**. 53, 930, 2024. https://doi.org/10.1007/s11664-023-10837-5

184. Javed Ahmad, Rizwan Wahab, Maqsood A. Siddiqui, **Maqusood Ahamed**. Cytotoxicity and apoptosis induction of zinc ferrite nanoparticle through the oxidative stress pathway in human breast cancer cells. **Journal of King Saud University-Science** Volume 36, Issue 2, February 2024, 103047. https://doi.org/10.1016/j.jksus.2023.103047

183. Mohd Abdul Majeed Khan, Manjeet Pawar, Anees Ahmad Ansari, **Maqusood Ahamed**, Sushil Kumar, Saruchi Rani. Hydrothermally produced Mo-doped WO_3 nanoparticles and their enhanced photocatalytic and electrochemical properties. Journal of Materials Science: Materials in Electronics. 35, 1565 (2024). https://doi.org/10.1007/s10854-024-13336-3

182. M.A. Majeed Khan, Parul Choudhary, Anees A. Ansari, **Maqusood Ahamed**, Sushil Kumar, Mohammed Shahabuddin, Abu ul Hassan S. Rana. Facile production of Ag-Co3O4/rGO nanocomposite and its enhanced photocatalytic and electrochemical activities for practical applications. **Diamond and Related Materials**. Volume 141, January 2024, 110675. https://doi.org/10.1016/j.diamond.2023.110675

181. Mohd Javed Akhtar, **Maqusood Ahamed**, Hisham Al. Alhadlaq. Cobalt-based nanoparticles strongly diminish CalceinAM fluorescence independently of their cytotoxic potential in human lung cell line. **Journal of King Saud University-Science** 2024 (January), 36 (1), 102987. https://doi.org/10.1016/j.jksus.2023.102987

Year 2023

180. Rashid Lateef, Israr Ahmad, Abbas Ali Mahdi, Pavan Rajanahalli, Mohd Javed Akhtar, **Maqusood Ahamed***. Solanesol alleviates metal oxide nanoparticles generated toxicity in human placental BeWo cells. **Journal of King Saud University-Science**, 2023 (December) 35 (10), 102982. https://doi.org/10.1016/j.jksus.2023.102982

179. Sitah Alanazi, ZabnAllah M. Alaizeri, Rashid Lateef, Nawal Madkhali, Abdullah Alharbi, Maqusood Ahamed. Zn Doping Improves the Anticancer Efficacy of SnO_2 Nanoparticles. **Applied Sciences** 2023, 13(22), 12456. https://doi.org/10.3390/app132212456

178. Maqusood Ahamed*, Mohd Javed Akhtar, M.A. Majeed Khan. Green-fabricated MgO nanoparticles: A potent antimicrobial and anticancer agent. **Journal of King Saud University - Science** 2023 (November), 35 (8) 102889. https://doi.org/10.1016/j.jksus.2023.102889

177. ZabnAllah M Alaizeri, Hisham A Alhadlaq, Saad Aldawood, Mohd Javed Akhtar, **Maqusood Ahamed***. One-step preparation, characterization, and anticancer potential of $ZnFe_2O_4$/RGO nanocomposites. **Saudi Pharmaceutical Journal** 2023 (September) 31 (9), 101735. https://doi.org/10.1016/j.jsps.2023.101735

176. MA Majeed Khan, Anees A Ansari, Wasi Khan, **Maqusood Ahamed**, Jahangeer Ahmed, Avshish Kumar. Synthesis of nanosized MnO_2 decorated SWCNTs and their photocatalytic improved activity as well as enhanced electrode performance. **Optics & Laser Technology** 2023 (September) 164, 109518. https://doi.org/10.1016/j.optlastec.2023.109518

175. Maqusood Ahamed*, Mohd Javed Akhtar, Hisham A. Alhadlaq. Synergistic toxicity of NiO nanoparticles and benzo[a]pyrene co-exposure in liver cells: Role of free oxygen radicals induced oxidative stress. **Journal of King Saud University - Science** 2023 (August) 35 (6), 102750. https://doi.org/10.1016/j.jksus.2023.102750

174. Ekambaram Gayathiri, Palanisamy Prakash, **Maqusood Ahamed**, Saravanan Pandiaraj, Baskar Venkidasamy, Haripriya Dayalan, Pratheep Thangaraj, Kuppusamy Selvam, Somdatta Y Chaudhari, Rajakumar Govindasamy, Muthu Thiruvengadam. Multitargeted pharmacokinetics, molecular docking and network pharmacology-based identification of effective phytocompounds from Sauropus androgynus (L.) Merr for inflammation and cancer treatment. **Journal of Biomolecular Structure and Dynamics**. 2023/7/29, 1-14. https://doi.org/10.1080/07391102.2023.2243335

174. Maqusood Ahamed*, Mohd Javed Akhtar, M.A. Majeed Khan. ZrO_2 nanoparticles anchored on RGO sheets: Eco-friendly synthesis from *Acacia nilotica* (L.) fruit extract, characterization, and enhanced anticancer activity in different human cancer cells. **Materialstoday Communications** 2023 (August), 36, 106756. https://doi.org/10.1016/j.mtcomm.2023.106756

173. Alaizeri ZM, Hisham A. Alhadlaq, Saad Aldawood, Mohd Javed Akhtar, **Maqusood Ahamed***. Bi_2O_3-Doped WO_3 Nanoparticles Decorated on rGO Sheets: Simple Synthesis, Characterization, Photocatalytic Performance, and Selective Cytotoxicity Toward Human Cancer Cells. **ACS Omega** 2023 (July), 8, 28, 25020–25033. https://doi.org/10.1021/acsomega.3c01644

172. Ali Alrabie, Nabeel A. Alrabie, Mohammed AlSaeedy, Arwa Al-Adhreai, Inas Al-Qadsy, Sultan A. Al-Horaibi, ZabnAllah M. Alaizeri, Hisham A. Alhadlaq, **Maqusood Ahamed,** and Mazahar Farooqui. An integrative GC–MS and LC–MS metabolomics platformdetermination of the metabolite profile ofBombax ceibaL. root, and in silico & in vitro evaluation of itsantibacterial & antidiabetic activities. **Natural Product Research** 2023, 37 (13), 2263–2268. https://doi.org/10.1080/14786419.2022.2149519

171. Alaizeri ZM, Alhadlaq HA, Aldawood S, Akhtar MJ, Aziz AA, **Maqusood Ahamed***. Photocatalytic Degradation of Methylene Blue and Anticancer Response of In2O3/RGO Nanocomposites Prepared by a Microwave-Assisted Hydrothermal Synthesis Process. **Molecules** 2023 (June), 28, 5153. https://doi.org/10.3390/ molecules28135153

170. Maqusood Ahamed*, Khan MAM. Enhanced Photocatalytic and Anticancer Activity of Zn-Doped BaTiO3 Nanoparticles Prepared through a Green Approach Using Banana Peel Extract. **Catalysts** 2023(June), 13, 985. https://doi.org/10.3390/ catal13060985

169. Maqusood Ahamed*, Mohd Javed Akhtar, M.A. Majeed Khan, Hisham A. Alhadlaq. Improved antimicrobial and anticancer potential of eco-friendly synthesized Co-doped Bi_2O_3/RGO nanocomposites. **Journal of Drug Delivery Science and Technology** 2023 (June), 84, 104525. https://doi.org/10.1016/j.jddst.2023.104525

168. **Maqusood Ahamed***, Mohd Javed Akhtar, Hisham A. Alhadlaq. Natural antioxidant curcumin attenuates NiO nanoparticle-induced cytotoxicity in mouse spermatogonia cells: A mechanistic study. **Journal of King Saud University-Science** 2023 (May) 35 (4), 102624. https://doi.org/10.1016/j.jksus.2023.102624

167. M.A. Majeed Khan, Bharti Sharma, **Maqusood Ahamed**, Abuul Hassan S. Rana, Sushil Kumar. Ag nanoparticles decorated on rGO sheets: Green synthesis and effective photocatalytic action. **Physica B: Condensed Matter** 2023 (May) 657 (15), 414789. https://doi.org/10.1016/j.physb.2023.414789

166. Akhtar MJ, **Maqusood Ahamed**, Alhadlaq H. Bismuth Oxide (Bi2O3) Nanoparticles Cause Selective Toxicity in a Human Endothelial (HUVE) Cell Line Compared to Epithelial Cells. **Toxics** 2023 (April), 11, 343. https://doi.org/10.3390/ toxics11040343

165. **Maqusood Ahamed***, Mohd Javed Akhtar, M.A. Majeed Khan, Hisham A. Alhadlaq. Protocatechuic acid mitigates CuO nanoparticles-induced toxicity by strengthening the antioxidant defense system and suppressing apoptosis in liver cells**. Journal of King Saud University - Science** 2023 (April), 35 (3), 102585. https://doi.org/10.1016/j.jksus.2023.102585

164. Mohd Javed Akhtar, **Maqusood Ahamed**, Hisham Alhadlaq. A selective toxicity of Pt-coated Au nanoparticles in cancerous MCF-7 cells over non-cancerous HUVE cells. **Journal of King Saud University – Science** 2023 (April), 35 (3), 02583. https://doi.org/10.1016/j.jksus.2023.102583

163. Ali S, Sudha KG, Thirumalaivasan N, **Maqusood Ahamed**, Pandiaraj S, Rajeswari VD, Vinayagam Y, Thiruvengadam M, Govindasamy R. Green Synthesis of Magnesium Oxide Nanoparticles by Using Abrus precatorius Bark Extract and Their Photocatalytic, Antioxidant, Antibacterial, and Cytotoxicity Activities. **Bioengineering** 2023 (Feb), 10, 302. https://doi.org/ 10.3390/bioengineering10030302

162. Rashid Lateef, Marhaba, Payal Mandal, Kausar M. Ansari, Mohd Javed Akhtar, **Maqusood Ahamed***. Cytotoxicity and apoptosis induction of copper oxide-reduced graphene oxide nanocomposites in normal rat kidney cells. **Journal of King Saud University-Science** 2023 (Feb) 35 (2), 102513. https://doi.org/10.1016/j.jksus.2022.102513

161. **Maqusood Ahamed***, Rashid Lateef, M. A. Majeed Khan, Pavan Rajanahalli, Mohd Javed Akhtar. Biosynthesis, Characterization, and Augmented Anticancer Activity of ZrO_2 Doped ZnO/rGO Nanocomposite. **Journal of Functional Biomaterials** 2023 (January), 14(1), 38. https://doi.org/10.3390/jfb14010038

160. Alaizeri, Z.M., Alhadlaq, H.A., Aldawood, S., Mohd Javed Akhtar, **Maqusood Ahamed***. Photodeposition mediated synthesis of silver-doped indium oxide nanoparticles for improved photocatalytic and anticancer performance. **Environmental Science and Pollution Research** 2023 (January) 30, 6055-6067. https://doi.org/10.1007/s11356-022-22594-9

Year 2022

159. Nida N. Farshori, Maqsood A. Siddiqui, Mai M. Al-Oqail, Ebtesam S. Al-Sheddi, Shaza M. Al-Massarani, **Maqusood Ahamed**, Javed Ahmad, Abdulaziz A. Al-Khedhairyet. Copper Oxide Nanoparticles Exhibit Cell Death Through Oxidative Stress Responses in Human Airway Epithelial Cells: A Mechanistic Study. **Biological Trace Element Research** 2022 (December), 200, 5042-51 https://doi.org/10.1007/s12011-022-03107-8

158. **Maqusood Ahamed***, Rashid Lateef, Mohd Javed Akhtar, Pavan Rajanahalli. Dietary Antioxidant Curcumin Mitigates CuO Nanoparticle-Induced Cytotoxicity through the Oxidative Stress Pathway in Human Placental Cells. **Molecules** October 2022, 27, 7378. https://doi.org/10.3390/molecules27217378

157. Ashok Kumar, Mohammad A. Alfhili, Ahmed Bari, Hanane Ennaji, Maqusood Ahamed, Mohammed Bourhia, Mohamed Chebaibi, Laila Benbacer, Hazem K. Ghneim, Manal Abudawood, Khalid M. Alghamdi, John P. Giesy, Yazeed A. Al-Sheikh, and Mourad A. M. Aboul-Soud. Apoptosis-mediated anti-proliferative activity of *Calligonum comosum* against human breast cancer cells, and molecular docking of its major polyphenolics to Caspase-3. **Front. Cell Dev. Biol**. October 2022. https://doi.org/10.3389/fcell.2022.972111

156. M.A. Majeed Khan, Poonam Nain, Jahangeer Ahmed, **Maqusood Ahamed**, Sushil Kumar Characterization and photocatalytic performance of hydrothermally synthesized Cu-doped TiO2 NPs. **Optical Materials** Volume 133, November 2022, 112983. https://doi.org/10.1016/j.optmat.2022.112983

155. Maqusood Ahamed*, Akhtar, M.J., Alhadlaq, H.A. Combined effect of single-walled carbon nanotubes and cadmium on human lung cancer cells. **Environmental Science and Pollution Research** December 2022, 29, 87844–87857. https://doi.org/10.1007/s11356-022-21933-0

154. M. Sivakavinesan, M. Vanaja, Rashid Lateef, Hisham A. Alhadlaq, Raja Mohan, G. Annadurai*****, **Maqusood Ahamed***. Citrus limetta Risso peel mediated green synthesis of gold nanoparticles and its antioxidant and catalytic activity. **Journal of King Saud University-Science** 2022, 34 (7), 102235. https://doi.org/10.1016/j.jksus.2022.102235

153. Maqusood Ahamed*, Mohd Javed Akhtar, M.A. Majeed Khan, Ponmurugan Karuppiah. Antibacterial, antifungal, and anticancer potential of two-dimensional Ti3C2Tx MXene. **Materials Letters** 2022, 327, 133020. https://doi.org/10.1016/j.matlet.2022.133020

152. Mohd Javed Akhtar, **Maqusood Ahamed**, Hisham A.Alhadlaq. Immunotoxic potential of nanoparticles of cerium oxide and gadolinium oxide in human monocyte (THP-1) cells. **Journal of King Saud University-Science** November 2022, 34(8), 102291. https://doi.org/10.1016/j.jksus.2022.102291

151. Alaizeri, Z.M., Alhadlaq, H.A., Aldawood, S., Mohd Javed Akhtar, **Maqusood Ahamed***. Photodeposition mediated synthesis of silver-doped indium oxide nanoparticles for improved photocatalytic and anticancer performance. **Environmental Science and Pollution Research** In press August 2022. https://doi.org/10.1007/s11356-022-22594-9

150. Priyanka Chattoraj, Parimala Prabhakar, Vishwanath Koti, N. Suganya Natarajan, M. Lakshminarayana, K. Arul, M. Venkatachalapathy, **Maqusood Ahamed**, M. Karnan, S. Praveen Kumar. Optimization on Tribological Behaviour of AA7178/Nano Titanium Diboride Hybrid Composites Employing Taguchi Techniques. **Journal of Nanomaterials**. Volume 2022, Article ID 1619923, 8 pages. https://doi.org/10.1155/2022/1619923

149. A.E. Tarabiah, Hisham A. Alhadlaq, ZabnAllah M. Alaizeri, Abdullah A. A. Ahmed, G.M. Asnag, **Maqusood Ahamed***. Enhanced structural, optical, electrical properties and antibacterial activity of PEO/CMC doped ZnO nanorods for energy storage and food packaging applications. **Journal of Polymer Research** (2022) 29:167. https://doi.org/10.1007/s10965-022-03011-8

148. Maqusood Ahamed*, Mohd Javed Akhtar, M.A. Majeed Khan, Hisham A. Alhadlaq. Enhanced Anticancer Performance of Eco-Friendly-Prepared Mo-ZnO/RGO Nanocomposites: Role of Oxidative Stress and Apoptosis. **ACS Omega** 2022, 7, 8, 7103–7115. https://doi.org/10.1021/acsomega.1c06789

147. T. Jayakumar, S. Jaanaa Rubavathy, R. Karpagam, S. Diwakaran, S. Arockia Jayadhas, **Maqusood Ahamed**, Shanmugam Sureshkumar. Experimental Analysis of the Thermal Performance of a Latent Heat Energy of Helical Coil for the Application of Solar Energy. **International Journal of Photoenergy** Volume 2022, Article ID 7065940, 9 pages https://doi.org/10.1155/2022/7065940

146. Bakeel A. Radman, Bushra Y.H. Al-Khatib, ZabnAllah M. Alaizeri, AbdulHaleem S. Al-Tamimi, Waleed E. Al-Thahibi, Raja Mohan, Hisham A. Alhadlaq, **Maqusood Ahamed***. Histology and

radiography studies of effects of *Lepidium sativum* seeds on bone healing in male albino rats. **Journal of King Saud University-Science**. 2022 34(5), 102062. https://doi.org/10.1016/j.jksus.2022.102062

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11. Posgai R, **Maqusood Ahamed**, Hussain SM, Rowe J, Nielson M. Rapid inhalation method for systemic introduction of nanoparticles to Drosophila melanogaster for toxicity testing. **Science of the Total Environment** 2009; 408: 439-443. https://doi.org/10.1016/j.scitotenv.2009.10.008

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9. Maqusood Ahamed, Michael Karns, Michael Goodson, John Rowe, Saber M. Hussain, John J. Schlager, Yiling Hong. DNA damage response to different surface chemistry of silver nanoparticles in mammalian cells. **Toxicology and Applied Pharmacology** 233 (2008) 404–410. https://doi.org/10.1016/j.taap.2008.09.015

8. Maqusood Ahamed*, Kumar A, Siddiqui WA, Siddiqui MKJ. Oxidative stress and some neurological disorders in relation to blood lead levels in children. **Redox Report** 2008; 13: 117-122. https://doi.org/10.1179/135100008X259213

Year 2007

7. Maqusood Ahamed, Singh S, Behari JR, Kumar A, Siddiqui MKJ. Interaction of lead with some essential trace metals in the blood of anemic children from Lucknow, India. **Clinica Chimica Acta** 2007; 377: 92-97. https://doi.org/10.1016/j.cca.2006.08.032

6. Maqusood Ahamed and Siddiqui MKJ. Low levels lead exposure and oxidative stress: Current opinions. **Clinica Chimica Acta** 2007; 383: 57-64. https://doi.org/10.1016/j.cca.2007.04.024

5. Maqusood Ahamed and Siddiqui MKJ. Environmental lead toxicity and nutritional factors. **Clinical Nutrition** 2007; 26: 400-408. https://doi.org/10.1016/j.clnu.2007.03.010

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4. Maqusood Ahamed, Verma S, Kumar A, Siddiqui MKJ. Delta-aminolevulinic acid dehydratase inhibition and oxidative stress in relation to blood lead among urban adolescents. **Human and Experimental Toxicology** 2006; 25: 547-553. https://doi.org/10.1191%2F0960327106het657oa

3. **Maqusood Ahamed**, Anand M, Kumar A, Siddiqui MKJ. Childhood aplastic anemia in Lucknow, India: Incidence, organochlorines in the blood and review of case reports following to pesticides exposure. **Clinical Biochemistry** 2006; 39: 762-766. https://doi.org/10.1016/j.clinbiochem.2006.03.021
2. **Maqusood Ahamed**, Kumar A, Siddiqui MA. Lipid peroxidation and antioxidants status in the blood of children with aplastic anemia (letter to the editor). Clinica Chimica Acta 2006; 374: 176-177, https://doi.org/10.1016/j.cca.2006.06.029

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1. **Maqusood Ahamed,** Verma S, Kumar A, Siddiqui MKJ. Environmental exposure to lead and its correlation with biochemical indices in children. **Science of the Total Environment** 2005; 346: 48-55. https://doi.org/10.1016/j.scitotenv.2004.12.019

***Corresponding author**

Organization of Training Programs/Workshops

- Organized a workshop on the topic "Nanostructures for Biomedical Applications (NBA-2022)" on 09- February-2022 at King Abdullah Institute for Nanotechnology, King Saud University, Riyadh, Saudi Arabia.

Invited Speakers/Oral Presentations/Lectures (Selected)

- Lecture delivered at KAIN-KSU seminar series on the topic "Biomedical applications of engineered nanostructures" date 25-December-2024.
- Lecture delivered on the topic "Nanocomposites for cancer therapy" at the workshop "Biosensing technologies at KSU: Recent and future advances" on 06-December-2023 at the King Abdullah Institute for Nanotechnology, King Saud University, Riyadh, Saudi Arabia.
- Oral communication on the topic "Anticancer performance of green prepared Mo-ZnO/RGO nanocomposites: Investigation of possible mechanism" at the International Conference and Exhibition for Science (ICES-2023), held in Riyadh, Saudi Arabia, on February 06-08, 2023
- Lecture delivered on the topic "ZnO-based nanostructures for cancer therapy" at the workshop on "Nanostructures for Biomedical Applications (NBA-2022)" on 09 February 2022 at the King Abdullah Institute for Nanotechnology, King Saud University, Riyadh, Saudi Arabia.
- INVITED SPEAKER on the topic "Nanotechnology: Biomedical Application and Human Health" at VBS Purvanchal University 31 July, 2016, Jaunpur, India
- INVITED SPEAKER at 6th International Conference on Drug Discovery and Therapy. Feb 10-12, 2014. Dubai, UAE.
- ORAL PRESENTATION at International Conference on Advances in Free radicals, Redox Signaling and Translational Antioxidant Research and XII Annual Meeting of the Society for Free Radical

Research-India during Jan30-Feb01, 2013 at CSIR-Indian Institute of Toxicology Research (CSIR-IITR), Lucknow, India.

- INVITED SPEAKER at "Halal Food Control Workshop" organized by Saudi Food and Drug Authority (SFDA) on Feb12, 2012, Riyadh, Saudi Arabia.
- INVITED SPEAKER at the conference "Second World Conference on Nanomedicine and Drug Delivery (WCN-2011) March 11-13, 2011, held at Kottayam, Kerala, India
- ORAL PRESENTATION at SETAC North America 30th Annual Meeting. Human-Environment Interactions: Understanding Change in Dynamic Systems Hilton Riverside. 19 - 23 November 2009. New Orleans, Louisiana, USA,
- Ahamed M. The fifth class of G α proteins. February, 2009. Department of Biology, University of Dayton, OH, USA
- Ahamed M. Toxicity of engineered nanomaterials. September, 2008. Department of Biology, University of Dayton, OH, USA
- Ahamed M. DNA damage response to different surface chemistry of silver nanoparticles in mammalian cells. April, 2008. Department of biology, University of Dayton, OH, USA
- Ahamed M. Placental lead-induced oxidative stress and preterm delivery. August, 2006. Indian Institute of Toxicological Research, Lucknow, India
- Ahamed M. Interaction of lead with some essential trace metals in the blood of anemic children. December, 2005. Indian Institute of Toxicological Research, Lucknow, India
- Ahamed M. Environmental lead exposure and associated health risks in children. May, 2004. Indian Institute of Toxicological Research, Lucknow, India
- Ahamed M. Blood lead levels and its correlation with biochemical indices in general population children. March, 2005. Indian Institute of Toxicological Research, Lucknow, India

Conferences/seminars/summits (Selected)

1. Attended international Conference on Conjoined Twins-2024 organized by King Salman Humanitarian Aid & Relief Centre (KSrelief) in Saudi Arabia held at the Hilton Riyadh Hotel, Riyadh, Saudi Arabia from 24-25 November 2024.
2. Attended Local Content Forum held at Misk city, Riyadh, Saudi Arabia from 20-22 November 2024.
3. Attended Global Logistics Forum held in Riyadh, Saudi Arabia from 12 -14 October 2024.
4. Attended Global AI Summit (GAIN), held at the King Abdulaziz International Conference Center (KAICC), Riyadh, Saudi Arabia from 10-12 September 2024.

5. **Ahamed M**, Verma S, Kumar A, Siddiqui M. K. J. Environmental exposure to lead and its impact on somatic growth, neurobehavioral function and biochemical indices in children from Lucknow. International conference on health, occupation and environment in unorganized sector- Problems and road maps (ICHOE 2004). Indian Institute of Toxicological Research (IITR), **Lucknow, India**. November 1-3, 2004.

6. **Ahamed M,** Siddiqui MKJ. Lead exposure and children's health. Vish Vigyan Sandesh, 2004; 10: 47-48.

7. **Ahamed M**. Training Workshop on Scientific Communication. Indian Institute of Toxicological Research (IITR), **Lucknow, India**. July 24-25, 2004.

8. **Ahamed M,** Mehrotra PK, Kumar P, Siddiqui MKJ. Enhanced antioxidant enzymes activity and lipid peroxidation in placental tissue of women with preterm deliveries. All India Cell Biology Conference-2006 (AICBC-2006). Indian Institute of Toxicological Research (IITR), **Lucknow, India**. January 18-20, 2006.

9. Anand M, Jyoti, **Ahamed M**, Kumar A, Siddiqui MKJ. Oxidative stress and childhood aplastic anemia in relation to blood organochlorines. All India Cell Biology Conference-2006 (AICBC-2006). Indian Institute of Toxicological Research (IITR), **Lucknow, India**. January 18-20, 2006.

10. Goodson M, **Ahamed M,** Ramasamy R, DesJardins A, Goubeaux D, Karns M, Murdock R, Posgai R, Vahrenhold C, Hong Y, Nielsen M, Robinson J, Hussain S, Rowe J. Assessing the toxicity of antimicrobial nanoparticles. 108th General Meeting of American Society for Microbiology, **Boston, USA**, June 1-5, 2008.

11. Goodson M, **Ahamed M,** Ramasamy R, DesJardins A, Goubeaux D, Karns M, Murdock R, Posgai R, Vahrenhold C, Hong Y, Nielsen M, Robinson J, Hussain S, Rowe J. Assessing the toxicity of antimicrobial nanoparticles. First US Air Force Workshop on Biological Interaction of Nanomaterials, **Dayton, Ohio, USA**, June 24-25, 2008.

12. **Ahamed M,** Karns M, Goodson M, Rowe J, Hussain S, Schlager J, Hong Y. Assessment of genotoxicity of different surface chemistry of silver nanoparticles in mammalian cells. First US Air Force Workshop on Biological Interaction of Nanomaterials, **Dayton, Ohio, USA**, June 24-25, 2008.

13. **Ahamed M,** Posgoi R, Neilson M, Hussain SM, Rowe JJ. Silver nanoparticles-induced heat shock protein70, oxidative stress and apoptosis in *Drosophila melanogaster* (**Oral Presentation),** SETAC North America 30th Annual Meeting. Human-Environment Interactions: Understanding Change in Dynamic Systems Hilton Riverside, **New Orleans, Louisiana, USA**, 19 - 23 November 2009.

14. Rowe JJ, **Ahamed M**. Model systems for rapid assessment of long and short term effects of nanomaterials on biological systems. Interagency Nanotechnology Implications Grantees Workshop– EPA, NSF, NIH/NIEHS, NIOSH, and DOE Embassy Suites Hotel **Las Vegas, Nevada, USA** November 9-10, 2009.

15. **Ahamed M**, Maqsood A Siddiqui, Javed Ahmad, Javed Musarrat, Abdulaziz A. Al-Khedhairy, Mohamad S. AlSalhi, Salman A. Alrokayan. "Nickel ferrite nanoparticles induced oxidative stress and apoptosis in human lung epithelial cells" in "26th Annual Meeting of Saudi Biological Sciences" and a symposium on "Climate Change and Biodiversity" during May 10-12, 2011 at College of Science, Taif University, Taif, **Saudi Arabia**.

16. MA Siddiqui, **Ahamed M**, J Ahmad, Q Saquib, AA Al-Khedhairy, FM Abou-Tarboush, J Musarrat. "Trans-resveratrol protects MCF-7 cells against Rotenone-induced Cytotoxicity" in "26th Annual Meeting of Saudi Biological Sciences" and a symposium on "Climate Change and Biodiversity" during May 10-12, 2011 at College of Science, Taif University, Taif, **Saudi Arabia**.

17. **Ahamed M**. DNA damage and apoptotic response of ZnO and CuO nanoparticles in Human alveolar adenocarnimoa cells. Second World Conference on Nanomedicine and Drug Delivery (WCN-2011) held on March 11-13, 2011 organized by Institute for Holistic Medical Sciences (IHMS), Kerala, **India** and Ayurved-Und Venen-Klinik Dr. Mathew, **Austria**.

18. MA Siddiqui, **Ahamed M**, J Ahmad, Q Saquib, R Wahab, ST Khan, S Dwivedi, A Al-Salem, AA Al-Khedhairy, J Musarrat, AB Pant. "4-Hydroxynonenal induced apoptotic changes in PC12 cells: Protection by trans- resveratrol" in "27th Annual Meeting of Saudi Biological Sciences" and a symposium on "Economics of Environment and Natural Resources" during March 6-8, 2012 at College of Science, Jazan University, Jazan, **Saudi Arabia**.

19. Rizwan Wahab, Maqsood A Siddiqui, **Ahamed M**, Javed Ahmad, Abdullah Al-Salem Abdulaziz A Al-Khedhairy, Javed Musarrat. "Use of zinc oxide nanoparticles as an anti-microbial Nanomedicine" in "27th Annual Meeting of Saudi Biological Sciences" and a symposium on "Economics of Environment and Natural Resources" during March 6-8, 2012 at College of Science, Jazan University, Jazan, **Saudi Arabia**.

20. MA Siddiqui, NN Farshori, **Ahamed M**, J Ahmad, AA Al-Khedhairy, J Musarrat and AB Pant. Ameliorative effects of trans-resveratrol on 4-hydroxynonenal induced apoptosis in cultured neuronal cells in "The XXXII Annual Conference of Society of Toxicology (STOX), India and International Symposium on New Frontiers in Toxicology" on "New Paradigms in Toxicology (NPT-2012)" during December, 5-7, 2012 at CSIR-Indian Institute of Toxicology Research (CSIR-IITR), Lucknow, **India**.

21. **Ahamed M**. ROS mediated apoptosis in human liver cell line HepG2 induced by silica nanoparticles. International Conference on Advances in Free radicals, Redox Signalin and Translational Antioxidant Research and XII Annual Meeting of the Society for Free Radical Research-India during Jan30-Feb01, 2013 at CSIR-Indian Institute of Toxicology Research (CSIR-IITR), Lucknow, **India.**

22. **Ahamed M,** Alhadlaq HA, Kham MAM. Selective killing of cancer cells by iron oxide nanoparticles mediated through reactive oxygen species. Nanoscience and Nanotechnology International Conference-2013 Nano-Portugal during Feb 13-15, **Porto**.

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Teaching Experiences

- Served as **Private Teacher** for introductory courses of **Biochemistry, Cell Biology, Genetics and Physiology** during the course of B.S. and M.S. study.

- Conducted lectures and practical classes for master students (Biochemistry, Biotechnology, Environmental Science and Toxicology) offered by **Indian Institute of Toxicological Research (IITR), Lucknow, India**.

- Participated in Summer Student Training Program at **Indian Institute of Toxicological Research (IITR), Lucknow, India**.

- Participated in Summer Student Training program at **University of Dayton, OH, USA.**