

CURRICULUM VITAE

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DR. MAQUSOOD AHAMED

Associate Professor

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WORK EXPERIENCE

- Oct 2017- Present** : **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,
Lucknow, India
- May 2003-April 2005** : **Junior Research Fellow**, Indian Institute of Toxicology Research,
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 University, New Delhi, India. Thesis title "Environmental exposure to leas and assessment of associated health risks among children". Thesis Supervisor- **Dr. M.K.J. 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/Co-supervisor: **Dr. Lalji Singh/ Dr. D.D. Dubey**
- B.S.** : **Chemistry, Zoology and Botany 1st Division** in 1997 from V.B.S. Purvanchal University, Jaunpur, India

AWARDS

- 2017** : [King Saud University Award for Scientific Excellence](#)
Category: Best Research Quality, Subject: Science and Engineering
- 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

RECOGNITION

INVITED SPEAKER 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,

EDITORIAL BOARD MEMBER for the following journals:

1. **Biomed Research International:** Hindawi Publishing Corporation, USA.
2. **Emergency Medicine:** OMICS Publishing group, USA

REGULAR REVIEWER 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.

Google Scholar Link: <https://scholar.google.com/citations?user=OBfQYvEAAA&hl=en>

KAIN web page: <http://nano.ksu.edu.sa/en/maqusood>

PEER REVIEWED ISI JOURNAL PUBLICATIONS

1. **Ahamed M**, 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.
2. **Ahamed M**, 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.
3. **Ahamed M**, 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.
4. **Ahamed M**, Kumar A, Siddiqui MKJ. Lipid peroxidation and antioxidant status in the blood of children with aplastic anemia. **Clinica Chimica Acta** 2006; 374: 176-177.
5. **Ahamed M**, 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.
6. **Ahamed M**, Siddiqui MKJ. Low levels lead exposure and oxidative stress: Current opinions. **Clinica Chimica Acta** 2007; 383: 57-64. (Most cited articles published from 2007-2012, extracted from SciVerse Scopus)
7. **Ahamed M**, Siddiqui MKJ. Environmental lead toxicity and nutritional factors. **Clinical Nutrition** 2007; 26: 400-408.
8. **Ahamed M***, 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.

9. **Ahamed M**, Karns M, Goodson M, Rowe J, Hussain S, Schlager J, Hong Y. DNA damage response to different surface chemistry of silver nanoparticles in mammalian cells. **Toxicology and Applied Pharmacology** 2008; 233: 404-410. ([Most cited articles published since 2008-2013, extracted from SciVerse Scopus](#))
10. Posgai R, **Ahamed M**, 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.
11. **Ahamed M***, Mehrotra PK, Kumar P, Siddiqui MKJ. Placental lead-induced oxidative stress and preterm delivery. **Environmental Toxicology and Pharmacology** 2009; 27: 70-74.
12. **Ahamed M***, Verma S, Kumar A, Siddiqui MKJ. Blood lead levels in children of Lucknow, India. **Environmental Toxicology** 2010; 25: 48-54.
13. **Ahamed M**, Posgai R, Gorey TM, Nielson M, Hussain SM, Rowe J. Silver nanoparticles induced heat shock protein 70, oxidative stress and apoptosis in *Drosophila melanogaster*. **Toxicology and Applied Pharmacology** 2010; 242: 263-269. ([Most cited articles published since 2010, extracted from SciVerse Scopus](#))
14. **Ahamed M***, Siddiqui MA, Akhtar MJ, Ahmad I, Pant AB, Alhadlaq HA. Genotoxic potential of copper oxide nanoparticles in human lung epithelial cells. **Biochemical and Biophysical Research Communication** 2010; 396: 578-583. ([Most cited articles published since 2010, extracted from SciVerse Scopus](#))
15. **Ahamed M***, AlSalhi, MS, Siddiqui MKJ. Silver nanoparticle applications and human health. **Clinica Chimica Acta** 2010; 411: 1841-1848. ([Most cited articles published since 2010, extracted from SciVerse Scopus](#))
16. Akhtar MJ, **Ahamed M**, Kumar S, Siddiqui S, Patil G, Ashquin M, Ahmad I. Nanotoxicity of pure silica mediated through oxidant generation rather than glutathione depletion in human lung epithelial cells. **Toxicology** 2010; 276: 95-102.
17. **Ahamed M***, Verma S, Kumar A, Siddiqui MKJ. Environmental lead exposure as a risk for childhood aplastic anemia. **Bioscience Trends** 2011; 5: 38-43.
18. Siddiqui MA, Saquib Q, **Ahamed M**, Ahmad J, Al-Khedhairi AA, Abou-Tarboush FM, Musarrat J. Effect of trans-resveratrol on rotenone-induced cytotoxicity in human breast adenocarcinoma cells. **Toxicology International** 2011; 18: 105-110.
19. **Ahamed M***. Toxic response of nickel nanoparticles in human lung epithelial A549 cells. **Toxicology in Vitro** 2011; 25: 930-936.
20. **Ahamed M***, Akhtar MJ, Siddiqui MA, Ahmad J, Musarrat J, Al-Khedhairi AA, AlSalhi MS, Alrokayan SA. Oxidative stress mediated apoptosis induced by nickel ferrite nanoparticles in cultured A549 cells. **Toxicology** 2011; 283: 101-108.

21. **Ahamed M***, Khan MAM, Siddiqui MKJ, AlSalhi MS, Alrokayan SA. Green synthesis, characterization and evaluation of biocompatibility of silver nanoparticles. **Physica E: Low-dimensional Systems and Nanostructures** 2011; 43: 1266-1271.
22. Khan MAM, Kumar S, **Ahamed M**, Alrokayan SA, AlSalhi MS. Structural and thermal studies of silver nanoparticles and electrical transport study of their thin films. **Nanoscale Research Letter** 2011; 6: 434.
23. Khan MAM, Kumar S, **Ahamed M**, Alrokayan SA, AlSalhi MS, Alhoshan M, Aldwayyan AS. Structural and spectroscopic studies of thin film of silver nanoparticles. **Applied Surface Science** 2011; 257: 10607-10612.
24. Meyer K, Rajanahalli P, **Ahamed M**, Rowe JJ, Hong Y. ZnO nanoparticles induce apoptosis in human dermal fibroblasts via p53 and p38 pathways. **Toxicology in Vitro** 2011; 25: 1721-1726.
25. **Ahamed M***, Akhtar MJ, Raja M, Ahmad I, Siddiqui MKJ, AlSalhi MS, Alrokayan SA. Zinc oxide nanorod induced apoptosis via p53, bax/bcl-2 and survivin pathways in human lung cancer cells: Role of oxidative stress. **Nanomedicine: Nanotechnology, Biology and Medicine** 2011; 7: 904-913.
26. Akhtar MJ, **Ahamed M**, Fareed M, Alrokayan SA, Kumar S. Protective effect of sulphoraphane against oxidative stress mediated toxicity induced by CuO nanoparticles in mouse embryonic fibroblasts BALB 3T3. **Journal of Toxicological Sciences** 2012; 37: 139-148.
27. Ahmad J, **Ahamed M***, Siddiqui MA, Musarrat J, Al-Khedhairi AA, Siddiqui MKJ, Alrokayan SA. Apoptosis induction by amorphous silica nanoparticles mediated through reactive oxygen species generation in human liver cell line HepG2. **Toxicology and Applied Pharmacology** 2012; 259-160-168.
28. Akhtar MJ, **Ahamed M***, Kumar S, Ahmad J, Khan MAM, Alrokayan SA. Zinc oxide nanoparticles selectively induces apoptosis in cancer cells through reactive oxygen species. **International Journal of Nanomedicine** 2012; 7: 845-857.
29. Siddiqui MA, **Ahamed M***, Ahmad J, Khan MAM, Musarrat J, Al-Khedhairi AA, Alrokayan SA. Nickel oxide nanoparticles induce cytotoxicity, oxidative stress and apoptosis in cultured human cells that is abrogated by the dietary antioxidant curcumin. **Food and Chemical Toxicology** 2012; 50: 641-647.
30. Khan MAM, Kumar S, Alsalhi MS, **Ahamed M**, Alhoshan M, Alrokayan SA, Ahmed T. Morphology and non-isothermal crystallization kinetics of CuInS₂ nanocrystals synthesized by solvo-thermal method. **Materials Characterization** 2012; 65: 109-114.
31. Khan MAM, Khan W, **Ahamed M**, Alhoshan M. Structural and optical properties of In₂O₃ nanostructured thin film. **Materials Letters** 2012; 79: Pages 119-121.
32. Khan MAM, Kumar S, **Ahamed M**, AlSalhi MS. Structural and electrical properties of spray deposited thin films of CuS₂ nanocrystals. **Materials Letters** 2012; 68: 497-500.
33. Ali D, Alarifi S, Kumar S, **Ahamed M**, Siddiqui MA. Oxidative stress and genotoxic effect of zinc oxide nanoparticles in freshwater snail *Lymnaea luteola* L. **Aquatic Toxicology** 2012; 124-125: 83-90.

34. Alarifi S, Ali D, Sulimany AO, Siddiqui MA, **Ahamed M**, AlKhedhairi, AA. Oxidative stress contributes to cobalt oxide nanoparticles-induced cytotoxicity and DNA damage in human hepatocarcinoma cells. **International Journal of Nanomedicine** 2013; 8: 189-199.
35. **Ahamed M***. Silica nanoparticles induced cytotoxicity, oxidative stress and apoptosis in A549 and A431 cells. **Human and Experimental Toxicology** 2013; 32(2): 186-195
36. Khan MAM, Khan W, **Ahamed M**, Alsalhi MS, Ahmed T. Crystallite structural, electrical and luminescent characteristics of thin films of In₂O₃ nanocubes synthesized by spray pyrolysis. **Electronic Materials Letters** 2013; 9(1): 53-57.
37. **Ahamed M***, Alhadlaq HA, Kham MAM, Akhtar MJ, Alrokayan SA. Selective killing of cancer cells by iron oxide nanoparticles mediated through reactive oxygen species via p53 pathway. **Journal of Nanoparticle Research** 2013; 15: 1225.
38. Alarifi S, Ali D, Alkahtani S, Verma A, **Ahamed M**, Alhadlaq HA. Induction of oxidative stress, DNA damage and apoptosis in human skin malignant melanoma cell line after exposure to zinc oxide nanoparticles. **International Journal of Nanomedicine** 2013; 8: 983-993.
39. Khan ST, **Ahamed M**, Al-Khedhairi A, Musarrat J. Biocidal effect of copper and zinc oxide nanoparticles on human oral microbiome and biofilm formation. **Materials Letters** 2013; 97: 67-70.
40. Dwivedi S, Al-Khedhairi AA, **Ahamed M**, Musarrat J. Biomimetic synthesis of selenium nanospheres by bacterial strain JS-11 and its role as a biosensor for nanotoxicity assessment: A novel Se-bioassay. **PLoS One** 2013; 8(3): e57404. doi:10.1371/journal.pone.0057404.
41. Ahmad J, Hasnain SE, Siddiqui MA, **Ahamed M**, Musarrat J, Al-Khedhairi AA. MicroRNA in carcinogenesis and cancer diagnostics: A new paradigm. **Indian Journal of Medical Research** 2013; 137: 680-694.
42. **Ahamed M***, Alhadlaq HA, Khan MAM, Alam J, Ali D, Alarafi S. Iron oxide nanoparticles induce oxidative stress mediated genotoxicity in two different human cell lines. **Current Pharmaceutical Design** 2013; 19(37): 6681-6690.
43. Siddiqui MA, Ahmad J, Al-Khedhairi AA, Musarrat J, Alhadlaq HA, **Ahamed M***. Copper oxide nanoparticles induced mitochondria mediated apoptosis in human hepatocellular carcinoma cells. **PLoS One** 2013; 8(8): e69534. doi: 10.1371/journal.pone.0069534.
44. Wahab R, Khan ST, Dwivedi S, **Ahamed M**, Musarrat J, Al-Khedhairi AA. Effective inhibition of bacterial respiration and growth by CuO microspheres composed of thin nanosheets. **Colloids and Surfaces B: Biointerfaces** 2013; 111C: 211-217.
45. Siddiqui MA, Ahmad J, Farshori NN, Saquib Q, Jahan S, Kashyap MP, **Ahamed M**, Musarrat J, Al-Khedhairi AA. Rotenone-induced oxidative stress and apoptosis in human liver HepG2 cells. **Molecular and Cellular Biochemistry** 2013; 384: 59-69.
46. **Ahamed M***, Ali D, Akhtar MJ, Alhadlaq HA. Nickel oxide nanoparticles exert cytotoxicity *via* oxidative stress and induce apoptotic response in human liver cells (HepG2). **Chemosphere** 2013; 93(10): 2514-2422.

47. Khan ST, **Ahamed M**, Musarrat J, Alhadlaq HA, Abdulaziz Al-Khedhairi. Comparative effectiveness of NiCl₂, Ni- and NiO-NPs in controlling oral bacterial growth and biofilm formation on oral surfaces. **Archives of Oral Biology** 2013; 58(12): 1804-1811.
48. **Ahamed M***, Khan MAM, Karuppiyah P, Aldhabi NA, Alhadlaq HA. Synthesis, characterization and antimicrobial activity of copper oxide nanoparticles. *Journal of Nanomaterials*. Volume 2014, Article ID 637858, 4 pages. <http://dx.doi.org/10.1155/2014/637858>
49. **Ahamed M***, Hisham A. Alhadlaq. Nickel nanoparticle-induced dose-dependent cyto-genotoxicity in human breast carcinoma MCF-7 cells. **OncoTargets and Therapy** 2014; 7: 269-280.
50. Akhtar MJ, **Ahamed M***, MAM Khan, Alrokayan SA, Ahmad I, Kumar S. Cytotoxicity and apoptosis induction by nanoscale talc particles from two different geographical regions in human lung epithelial cells. **Environmental Toxicology** 2014; 29: 394-406.
51. Khan MAM, Kumar S, Ahamed M. Microstructure and optical characterization of nanometric silicon films prepared by pulsed laser ablation. **Journal of Modern Optics** 2014; 61(6): 504-508.
52. Akhtar MJ, **Ahamed M**, Alhadlaq HA, Alrokayan SA, Kumar S. Targeted anticancer therapy: overexpressed receptors and nanotechnology. **Clinica Chimica Acta** 2014; 436: 78-92.
53. Khan MAM, Kumar S, Khan MN, **Ahamed M**, Al-Dwayyan AS. Microstructure and blue-shift in optical band gap of nanocrystalline Al_xZn_{1-x}O thin films. **Journal of Luminescence** 2014; 155: 275-281.
54. Dwivedi S, Siddiqui MA, Farshori NN, **Ahamed M**, Musarrat J, Al-Khedhairi AA. Synthesis, characterization and toxicological evaluation of iron oxide nanoparticles in human lung alveolar epithelial cells. **Colloids and Surfaces B: Biointerfaces** 2014; 122: 209-215.
55. Khan ST, **Ahamed M**, Musarrat J, Al-Khedhairi AA. Antibiofilm and antibacterial activities of zinc oxide nanoparticles against the oral opportunistic pathogens *Rothia dentocariosa* and *Rothia mucilaginosa*. **European Journal of Oral Sciences** 2014; 1-7. DOI: 10.1111/eos.12152
56. Ahmad J, Alhadlaq HA, Siddiqui MA, Saquib Q, Al-Khedhairi AA, Musarrat J, **Ahamed M***. Concentration-dependent induction of reactive oxygen species, cell cycle arrest and apoptosis in human liver cells after nickel nanoparticles exposure. **Environmental Toxicology** 2015; 30(2): 137-148.
57. Khan MAM, Kumar S, **Ahamed M**. Structural, electrical and optical properties of nanocrystalline silicon thin films deposited by pulsed laser ablation. **Materials Science in Semiconductor Processing** 2015; 30: 169-174.
58. Siddiqui MA, Saquib S, **Ahamed M**, Farshori NN, Ahmad J, Wahab R, Khan ST, Alhadlaq HA, Musarrat J, Al-Khedhairi AA, Pant AB. Molybdenum nanoparticles-induced cytotoxicity, oxidative stress, G2/M arrest, and DNA damage in mouse skin fibroblast cells (L929). **Colloids and Surfaces B: Biointerfaces** 2015; 125: 73-81.
59. **Ahamed M***, Alhadlaq HA, Ahmad J, Siddiqui MA, Khan ST, Musarrat J, Al-Khedhairi AA. Comparative cytotoxicity of dolomite nanoparticles in human larynx HEp2 and liver HepG2 cells. **Journal of Applied Toxicology** 2015; 35: 640-650.

60. **Ahamed M***, Akhtar MJ, Alhadlaq HA, Khan MAM, Alrokayan SA. Comparative cytotoxic response of nickel ferrite nanoparticles in human liver HepG2 and breast MCF-7 cancer cells. **Chemosphere** 2015; 135: 278-288.
61. Akhtar MJ, **Ahamed M**, Alhadlaq HA, Khan MAM, Alrokayan SA. Glutathione replenishing potential of CeO₂ nanoparticles in human breast and fibrosarcoma cells. **Journal of Colloid & Interface Science** 2015; 453: 21-27.
62. Khan MAM, Kumar S, **Ahamed M**, Alrokayan SA. Fe-doping induced tailoring in the microstructure and optical properties of ZnO nanoparticles synthesized via sol-gel route. **Journal of Materials Science: Materials in Electronics** 2015; 26: 6113–6118.
63. Akhtar MJ, **Ahamed M**, Alhadlaq HA, Khan MAM, Alrokayan SA. Antioxidative and cytoprotective response elicited by molybdenum nanoparticles in human cells. **Journal of Colloid & Interface Science** 2015; 457: 370-377.
64. **Ahamed M***, Akhtar MJ, Alhadlaq HA, Alrokayan SA. Assessment of the lung toxicity of copper oxide nanoparticles: Current status. **Nanomedicine (Lond.)** 2015; 10(15); 2365-2377.
65. Akhtar MJ, Alhadlaq HA, Alrokayan SA, **Ahamed M***. Aluminum doping tunes band gap energy level as well as oxidative stress-mediated cytotoxicity of ZnO nanoparticles in MCF-7 cells. **Scientific Reports** 2015; 5: 13876. [doi:10.1038/srep13876](https://doi.org/10.1038/srep13876)
66. Alhadlaq HA, Akhtar MJ, **Ahamed M***. Zinc ferrite nanoparticles induced cytotoxicity and oxidative stress in different human cells. **Cell & Bioscience** 2015; 5: 55.
67. Akhtar MJ, Alhadlaq HA, Kumar S, Alrokayan SA, **Ahamed M***. Selective cancer-killing ability of metal-based nanoparticles: implications for cancer therapy. **Archives of Toxicology** 2015; 89 (11): 1895-1907.
68. Akhtar MJ, Alrokayan SA, Alhadlaq HA, **Ahamed M***. Dose-dependent toxicity of copper oxide nanoparticles in human lung epithelial cells. **Toxicology and Industrial Health** 2016; 32(5): 809-821.
69. **Ahamed M***, Akhtar MJ, Alhadlaq HA, Alshamsan A. Copper ferrite nanoparticle-induced cytotoxicity and oxidative stress in human breast cancer MCF-7 cells. **Colloids and Surfaces B: Biointerfaces** 2016, 142: 46-54.
70. Ahmad J, Alhadlaq HA, Alshamsan A, Siddiqui MA, Saquib Q, Khan ST, Wahab R, Al-Khedhairi AA, Musarrat J, Akhtar MJ, **Ahamed M***. Differential cytotoxicity of copper ferrite nanoparticles in different human cells. **Journal of Applied Toxicology** 2016, 36: 1284-1293.
71. Khan ST, Ahmad J, **Ahamed M**, Musarrat J, Al-Khedhairi AA. Zinc oxide and titanium dioxide nanoparticles induce oxidative stress, inhibit growth, and attenuate biofilm formation activity of *Streptococcus mitis*. **Journal of Biological Inorganic Chemistry** 2016; 21: 295-303.
72. Ahamad T, Khan MAM, Kumar S, **Ahamed M**, Shahabuddin M, Alhazaa AN. CdS quantum dots: growth, microstructural, optical and electrical characteristics. **Applied Physics B: Laser and Optics** 2016; 122: 179.

73. **Ahamed M***, Khan MAM, Akhtar MJ, Alhadlaq HA, Alshamsan A. Role of Zn doping in oxidative stress mediated cytotoxicity of TiO₂ nanoparticles in human breast cancer MCF-7 cells. **Scientific Reports** 2016; 6: 30196. [doi:10.1038/srep30196](https://doi.org/10.1038/srep30196).
74. **Ahamed M***, Akhtar MJ, Khan MA, Alhadlaq HA, Alrokayan SA. Cytotoxic response of platinum-coated gold nanorods in human breast cancer cells at very low exposure levels. **Environmental Toxicology** 2016, 31(1): 1344-1356.
75. **Ahamed M***, Akhtar MJ, Khan MAM, Alhadlaq HA, Alshamsan A. Cobalt iron oxide nanoparticles induce cytotoxicity and regulate theapoptotic genes through ROS in human liver cells (HepG2). **Colloids and Surfaces B: Biointerfaces** 2016, 148: 665-673.
76. Tawfik E, **Ahamed M**, Almalik A, Alfaqeeh M, Alshamsan A. Prolonged exposure of colon cancer cells to 5-fluorouracil nanoparticles improves its anticancer activity. **Saudi Pharmaceutical Journal** 2017; 25: 206-2013.
77. Akhtar MJ, **Ahamed M**, Alhadlaq HA, Alshamsan A. Nanotoxicity of cobalt induced by oxidant generation and glutathione depletion in MCF-7 cells. **Toxicology in Vitro** 2017; 40: 94-101.
78. Akhtar MJ, **Ahamed M**, Alhadlaq HA, Alshamsan A. Mechanism of ROS scavenging and antioxidant signalling by redox metallic and fullerene nanomaterials: Potential implications in ROS associated degenerative disorders. **Biochimica et Biophysica Acta (BBA) - General Subjects**. 2017; 1861: 802-813.
79. Akhtar MJ, **Ahamed M**, Alhadlaq HA. Therapeutic targets in the selective killing of cancer cells by nanomaterials. **Clinica Chima Acta** 2017; 469: 53-62.
80. **Ahamed M***, Akhtar MJ, Khan MAM, Alhadlaq HA, Aldalbahi A. Nanocubes of indium oxide induce cytotoxicity and apoptosis through oxidative stress in human lung epithelial cells. **Colloids and Surfaces B: Biointerfaces** 2017; 156: 157-164.
81. Khan MAM, Khan W, **Ahamed M**, Alhazaa AN. Microstructural properties and enhanced photocatalytic performance of Zn doped CeO₂ nanocrystals. **Scientific Reports** 2017; 7: 12560. [DOI:10.1038/s41598-017-11074-7](https://doi.org/10.1038/s41598-017-11074-7).
82. Shams T. Khan, Ajmaluddin Malik, Rizwan Wahab, Omar H. Abd-Elkader, **Ahamed M**, Javed Ahmad, Javed Musarrat, Maqsood A. Siddiqui, Abdulaziz A. Al-Khedhairy. Synthesis and characterization of some abundant nanoparticles, their antimicrobial and enzyme inhibition activity. **Acta Microbiologica et Immunologica Hungarica** 2017; 64: 203-216.
83. Ahmad J, Siddiqui MA, Akhtar MJ, Alhadlaq HA, Alshamsan A, Khan ST, Wahab R, Al-Khedhairy AA, Al-SalimA, Musarrat J, Saquib Q, Fareed M, **Ahamed M**. Copper doping enhanced the oxidative stress-mediated cytotoxicity of TiO₂ nanoparticles in A549 cells. **Human and Experimental Toxicology** June 2017; [DOI: 10.1177/0960327117714040](https://doi.org/10.1177/0960327117714040).
84. **Ahamed M***, Khan MAM, Akhtar MJ, Alhadlaq HA, Alshamsan A. Ag-doping regulates the cytotoxicity of TiO₂ nanoparticles *via* oxidative stress in human cancer cells. 2017 Communicated

***Corresponding author**

EXTERNAL FUNDING FOR 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

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- Ongoing

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 and Technology (NPST), Riyadh, Saudi Arabia

Project Number: 13-NAN908-02-R

Duration: Recommended for funding 2015

Budget: Saudi Riyal 2.0 Million

Project #4

Title: Potential immunomodulatory responses of surface functionalized nanomaterials used in nanomedicine

Role: Consultant

Funding agency: National Plan for Science and Technology (NPST), Riyadh, Saudi Arabia

Project Number: 14-BIO144-02

Duration: Recommended for funding 2015

Budget: Saudi Riyal 2.0 Million

TEACHING EXPERIENCE

- 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.**

LECTURES DELIVERED

- **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**

SELECTED CONFERENCE ABSTRACTS

1. **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.
2. **Ahamed M,** Siddiqui MKJ. Lead exposure and children's health. Vish Vigyan Sandesh, 2004; 10: 47-48.
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17. **Ahamed M (Oral presentation)**. 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**.
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19. **Ahamed M (Invited Speaker)**. Preferential killing of cancer cells using nanoparticles. 6th International Conference on Drug Discovery and Therapy. Feb 10-12, 2014. **Dubai, UAE**.

CURRENT RESEARCH INTEREST

Nanotechnology is considered to be the next industrial revolution and is expected to become a 1 trillion dollar industry within the next few years. Our research focuses evaluating the biomedical application as well as the toxicity engineered nanoparticles and to test how these effects may be affected by the nanoparticle unique physico-chemical properties including crystalline nature, sizes and surface chemistry. Owing to their unique physico-chemical properties, nanoscale materials may cause biological consequences including inflammation, free oxygen radical generation, oxidative stress, DNA damage and ultimately cell death/apoptosis. Such knowledge will not only help to improve nanoscale material safety strategies for the protection of both human and environmental health, but will also help for biomedical applications of nanomaterials.