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### **Source Google Scholar:**

#### **Citation Index:**

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### **Research Area:**

I am currently working as Assistant Professor at School of Environmental Sciences, Jawaharlal Nehru University, New Delhi and teach students at MSc as well as MPhil/PhD level. Has long career of scientific research over more than 10 years of experience. My research focused on health effects of electromagnetic radiations, nanoparticles and their biomedical application as well as therapeutical potential of plants. Has expertise in various fields such as *Molecular biology, Biotechnology, plant biology, nanotechnology and microbiology*.

### **Experience:**

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|----|----------------------|--|---------------------|
| 1. | Assistant Professor  | Jawaharlal Nehru University, New Delhi | June 2017-Till date |
| 2. | Post-doctoral Fellow | Jawaharlal Nehru University, New Delhi | July 2014-2017      |

### **Awards:**

- MSCA-IF training Travel Award (University of Eastern Finland, 2018)
- SERB Travel Award (New York, USA, 2015)
- CSIR Travel award (Bali, Indonesia, 2009)
- Young Scientist Award (MASI, India, 2009)

### **Research Grants:**

- Pharmacological and therapeutic potential of biofabricated BSA-Cordyceps - Chitosan Nanoparticles in *In-vitro* and *In-vivo* system  
Funded by SERB, DST
- Assessment of Health impact and determines the toxicity mechanism of quantum dot (QDs)nanomaterials in In-vivo and In-vitro System  
Funded by UGC

### **Membership in Professional Bodies**

- Life member of Material Science Society (MSS)
- Life Member of Indian Nano Biotechnology Association (INBA)
- Life Member of Vijyan Bharti Association (VIBHA)
- Life Member, Biotech Research Society of India (BRSI)

### **Reviewers in Journals**

- Reviewer for PLoS ONE (**Impact Factor 2.8**), Published by Public Library of Science.
- Reviewer for Scientific Reports (**Impact Factor 4.25**), published by nature.com.
- Reviewer for Food and Chemical Toxicology (**Impact Factor 3.8**), published by Elsevier.
- Reviewer for Journal of Nanoparticles Research (**Impact Factor 2.1**), published by Springer.
- Reviewer for Science of Advanced Materials (**Impact Factor 1.67**), published by American Scientific Publishers.

### **List of some important publication:**

1. Tyagi, B., Gupta, B., Khatak, D., Meena, R., & Thakur, I. S. (2022). Genomic analysis, simultaneous production, and process optimization of extracellular polymeric substances and polyhydroxyalkanoates by *Methylobacterium* sp. ISTM1 by utilizing molasses. *Bioresource Technology*, 127204.

2. Priyadarshini, E., Meena, R., Bohidar, H. B., Sharma, S. K., Abdellatif, M. H., Saravanan, M., & Rajamani, P. (2022). Comparative In Vitro Cytotoxicity Study of Carbon Dot-Based Organometallic Nanoconjugates: Exploration of Their Cell Proliferation, Uptake, and Localization in Cancerous and Normal Cells. *Oxidative Medicine and Cellular Longevity*, 2022.
3. Patra, B., Meena, R., Rosalin, R., Singh, M., Paulraj, R., Ekka, R. K., & Pradhan, S. N. (2022). Untargeted Metabolomics in Piper betle Leaf Extracts to Discriminate the Cultivars of Coastal Odisha, India. *Applied Biochemistry and Biotechnology*, 1-15.
4. Singh, P., Kaur, M., Kaur, G., Singh, B., Singh, K., Kaur, H., ... & Kumar, A. (2021). Effect of processing parameters on synthesis of nanostructured boron carbide. *Advanced Materials Proceedings*, 2(2), 128-131.
5. Tyagi, B., Takkar, S., Meena, R., & Thakur, I. S. (2021). Production of polyhydroxybutyrate (PHB) by Parapedobacter sp. ISTM3 isolated from Mawsmai cave utilizing molasses as carbon source. *Environmental Technology & Innovation*, 24, 101854.
6. Gautam, R., Priyadarshini, E., Nirala, J. P., Meena, R., & Rajamani, P. (2021). Modulatory effects of Punica granatum L juice against 2115 MHz (3G) radiation-induced reproductive toxicity in male Wistar rat. *Environmental Science and Pollution Research*, 28(39), 54756-54765.
7. Singh, P., Kaur, M., Singh, K., Meena, R., Kumar, M., Yun, J. H., ... & Kumar, A. (2021). Fluorescent boron carbide quantum dots synthesized with a low-temperature solvothermal approach for boron neutron capture therapy. *Physica E: Low-dimensional Systems and Nanostructures*, 132, 114766.
8. Kaur, M., Singh, P., Meena, R., Nakagawa, F., Suzuki, M., Nakamura, H., & Kumar, A. (2021). Boron Neutron Capture Therapy Study of 10B Enriched Nanostructured Boron Carbide Against Cervical Cancer and Glioblastoma Cell Line. *Journal of Cluster Science*, 32(1), 221-225.
9. Singh, K., Kaur, M., Chauhan, I., Meena, R., Singh, J., Thakur, A., & Kumar, A. (2021). Tailoring of Structural, Morphological and Optical Properties of Boron Nitride/Nickel Oxide (BN100-x/NiOx) Nanocomposites. *Journal of Cluster Science*, 32(4), 865-873.
10. Khatua, A., Prasad, A., Priyadarshini, E., Virmani, I., Ghosh, L., Paul, B., ... & Saravanan, M. (2020). CTAB-PLGA Curcumin Nanoparticles: Preparation, Biophysical Characterization and Their Enhanced Antifungal Activity against Phytopathogenic Fungus Pythium ultimum. *ChemistrySelect*, 5(34), 10574-10580.
11. Patra, B., Gautam, R., Priyadarshini, E., Rajamani, P., Pradhan, S. N., Saravanan, M., & Meena, R. (2020). Piper betle: augmented synthesis of gold nanoparticles and its in-vitro cytotoxicity assessment on HeLa and HEK293 cells. *Journal of Cluster Science*, 31(1), 133-145.
12. Khatua, A., Priyadarshini, E., Rajamani, P., Patel, A., Kumar, J., Naik, A., ... & Meena, R. (2020). Phytosynthesis, characterization and fungicidal potential of emerging gold nanoparticles using *Pongamia pinnata* leave extract: a novel approach in nanoparticle synthesis. *Journal of Cluster Science*, 31(1), 125-131.
13. Khan, S., Khan, S. N., Akhtar, F., Misba, L., Meena, R., & Khan, A. U. (2020). Inhibition of multi-drug resistant *Klebsiella pneumoniae*: Nanoparticles induced photo-inactivation in presence of efflux pump inhibitor. *European Journal of Pharmaceutics and Biopharmaceutics*, 157, 165-174.

14. Khatua, A., Prasad, A., Priyadarshini, E., Patel, A. K., Naik, A., Saravanan, M., ... & Meena, R. (2020). Emerging antineoplastic plant-based gold nanoparticle synthesis: a mechanistic exploration of their anticancer activity toward cervical cancer cells. *Journal of Cluster Science*, 31(6), 1329-1340.
15. Kaur, M., Singh, P., Singh, K., Gaharwar, U. S., Meena, R., Kumar, M., ... & Kumar, A. (2020). Boron nitride (10BN) a prospective material for treatment of cancer by boron neutron capture therapy (BNCT). *Materials Letters*, 259, 126832.
16. Singh, R., Dwivedi, S. P., Gaharwar, U. S., Meena, R., Rajamani, P., & Prasad, T. (2020). Recent updates on drug resistance in *Mycobacterium tuberculosis*. *Journal of applied microbiology*, 128(6), 1547-1567.
17. Khatua, A., Prasad, A., Priyadarshini, E., Patel, A. K., Naik, A., Saravanan, M., ... & Meena, R. (2020). Emerging antineoplastic plant-based gold nanoparticle synthesis: a mechanistic exploration of their anticancer activity toward cervical cancer cells. *Journal of Cluster Science*, 31(6), 1329-1340.
18. Gaharwar, U. S., Meena, R., & Rajamani, P. (2019). Biodistribution, clearance and morphological alterations of intravenously administered iron oxide nanoparticles in male wistar rats. *International Journal of Nanomedicine*, 14, 9677.
19. Barabadi, H., Tajani, B., Moradi, M., Damavandi Kamali, K., Meena, R., Honary, S., ... & Saravanan, M. (2019). Penicillium family as emerging nanofactory for biosynthesis of green nanomaterials: a journey into the world of microorganisms. *Journal of Cluster Science*, 30(4), 843-856.
20. Virmani, I., Sasi, C., Priyadarshini, E., Kumar, R., Sharma, S. K., Singh, G. P., ... & Meena, R. (2020). Comparative anticancer potential of biologically and chemically synthesized gold nanoparticles. *Journal of Cluster Science*, 31(4), 867-876.
21. Khanam, R., Kumar, R., Hejazi, I. I., Shahabuddin, S., Meena, R., Rajamani, P., ... & Athar, F. (2019). New N-benzhydrylpiperazine/1, 3, 4-oxadiazoles conjugates inhibit the proliferation, migration, and induce apoptosis in HeLa cancer cells via oxidative stress-mediated mitochondrial pathway. *Journal of Cellular Biochemistry*, 120(2), 1651-1666.
22. Gautam, R., Singh, K. V., Nirala, J., Murmu, N. N., Meena, R., & Rajamani, P. (2018). Oxidative stress-mediated alterations on sperm parameters in male Wistar rats exposed to 3G mobile phone radiation. *Andrologia*, e13201. (Impact Factor: 1.45).
23. Singh, P., Kaur, G., Singh, K., Kaur, M., Kumar, M., Meena, R., ... & Kumar, A. (2018). Nanostructured boron carbide (B4C): A bio-compatible and recyclable photo-catalyst for efficient wastewater treatment. *Materialia*, 1, 258-264.
24. Khanam, R., Kumar, R., Hejazi, I. I., Shahabuddin, S., Meena, R., Rajamani, P., ... & Athar, F. (2019). New N-benzhydrylpiperazine/1, 3, 4-oxadiazoles conjugates inhibit the proliferation, migration, and induce apoptosis in HeLa cancer cells via oxidative stress-mediated mitochondrial pathway. *Journal of Cellular Biochemistry*, 120(2), 1651-1666.
25. Mir, I. A., Alam, H., Priyadarshini, E., Meena, R., Rawat, K., Rajamani, P., ... & Bohidar, H. B. (2018). Antimicrobial and biocompatibility of highly fluorescent ZnSe core and ZnSe@ ZnS core-shell quantum dots. *Journal of Nanoparticle Research*, 20(7), 1-11.
26. Khanam, R., Kumar, R., Hejazi, I. I., Shahabuddin, S., Meena, R., Jayant, V., ... & Athar, F. (2018). Piperazine clubbed with 2-azetidinone derivatives suppresses proliferation, migration and induces apoptosis in human cervical cancer HeLa cells through oxidative stress mediated intrinsic mitochondrial pathway. *Apoptosis*, 23(2), 113-131.

27. Meena, R., Kumar, S., Gaharwar, U. S., & Rajamani, P. (2017). PLGA-CTAB curcumin nanoparticles: Fabrication, characterization and molecular basis of anticancer activity in triple negative breast cancer cell lines (MDA-MB-231 cells). *Biomedicine & Pharmacotherapy*, 94, 944-954.
28. Gaharwar, U. S., Meena, R., & Rajamani, P. (2017). Iron oxide nanoparticles induced cytotoxicity, oxidative stress and DNA damage in lymphocytes. *Journal of Applied Toxicology*, 37(10), 1232-1244.
29. Khan, S., Khan, S. N., Meena, R., Dar, A. M., Pal, R., & Khan, A. U. (2017). Photoinactivation of multidrug resistant bacteria by monomeric methylene blue conjugated gold nanoparticles. *Journal of Photochemistry and Photobiology B: Biology*, 174, 150-161.
30. Singh, Bikramjeet, Paviter Singh, Kulwinder Singh, Jeewan Sharma, Manjeet Kumar, Rajni Bala, Ramovatar Meena, Saurabh Kumar Sharma, and Akshay Kumar. "Nanostructured BN-TiO<sub>2</sub> composite with ultra-high photocatalytic activity." *New Journal of Chemistry* 41, no. 20 (2017): 11640-11646.
31. Nanostructured BN-TiO<sub>2</sub> composite with ultra-high photocatalytic activity, A. Kumar, B. Singh, G. Kaur, P. Singh, K. Singh, J. Sharma, M. Kumar, **R. Meena**, and S. K. Sharma, New Journal of Chemistry, (2017), 41, 11640-11646, DOI:10.1039/C7NJ02509B. (Impact Factor: 3.27).
32. Biofluid metabotyping of occupationally exposed subjects to air pollution demonstrates high oxidative stress and deregulated amino acid metabolism, S. N. Pradhan, A. Das, **R. Meena**, **R K. Nanda**, R. Paulraj, *Scientific Reports*, (2016), 6, srep35972, DOI: 10.1038/srep35972. (Impact Factor: 4.25).
33. Nanostructured boron nitrides with high water dispersibility for boron neutron capture therapy, B. Singh, G. Kaur, P. Singh, K. Singh, B. Kumar, A. Vij, M. Kumar, R. Bala, **R. Meena**, A. Singh, A. Thakur and A. Kumar, *Scientific Reports*, (2016), 6, srep35535, DOI: 10.1038/srep35535. (Impact Factor: 4.25).
34. Fabrication of BSA green tea polyphenols–chitosan nanoparticles and their role in radioprotection: A molecular and biochemical approach, S. Kumar, R. Meena, and R. Paulraj, *Journal of Agricultural and Food Chemistry*, (2016), 64(30), 6024-6034, DOI: 10.1021/acs.jafc.6b02068. (Impact Factor: 3.15).
35. Emerging targets for radioprotection and radiosensitization in radiotherapy, S. Kumar, R. K. Singh and **R. Meena**, *Tumor Biology*, (2016), 37(9):11589-11609, DOI: 10.1007/s13277-016-5117-8. (Impact Factor: 2.92).
36. Calcium and superoxide-mediated pathways converge to induce nitric oxide-dependent apoptosis in *Mycobacterium fortuitum* infected Fish macrophages, D. Datta, P. Khatri, C. Banerjee, A. Singh, R. Meena, D. R. Saha, R. Raman, R. Paulraj, A. Mitra, S. Mazumder, *PLoS One*, (2016), 11; 11(1), doi.org/10.1371/journal.pone.0146554. (Impact Factor: 2.80).
37. Role of macrophage (M1 and M2) in Titanium-dioxide nanoparticle-induced oxidative stress and inflammatory response in Rat. R. Meena, S. Kumar and R Paulraj, *Applied Biochemistry and Biotechnology*, (2016), 180(7):1257-1275, DOI: 10.1007/s12010-016-2165-x. (Impact Factor: 1.75).
38. Titanium oxide (TiO<sub>2</sub>) nanoparticles in induction of apoptosis and inflammatory response in brain, **R. Meena**, **S** Kumar and R. Paulraj, *Journal of Nanoparticle Research*, (2015), 17(1), 1-14, DOI 10.1007/s11051-015- 2868-x. (Impact Factor: 2.10).
39. Cytotoxic and genotoxic effects of Titanium dioxide nanoparticles on reproductive system of male rat, **R. Meena**, K. Kumari and R. Paulraj, *Applied Biochemistry and*

Biotechnology, (2015), 175(2):825-40, DOI: 10.1007/s12010-014-1299-y. (Impact Factor: 1.75).

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41. Effect of 3G cell phone exposure with computer controlled 2-D stepper motor on non-thermal activation of the hsp27/p38MAPKstress pathway in rat brain, K.K. Kesari, R. **Meena**, J. Nirala, J. Kumar and H. N. Verma, Cell Biochemistry & Biophysics, (2014), 68(2):347-58, doi: 10.1007/s12013-013-9715-4. (Impact Factor: 1.32).
42. Cell phone radiation exposure on brain and associated biological systems, K. K. Kesari, R. **Meena**, M. H. Siddiqui, H. N. Verma and S. Kumar, Indian Journal of Experimental Biology, (2013), 51(3):187-200. (Impact Factor: 1.16).
43. Therapeutic approaches of melatonin in microwave radiations induced oxidative stress mediated toxicity on male fertility pattern of Wistar rats, R. **Meena**, K. Kumari, J. Kumar, R. Paulraj, H. N. Verma and K. K. Kesari, Electromagnetic Biology and Medicine, (2013), 32 (2): 81-91, doi: 10.3109/15368378.2013.781035 .(Impact Factor: 1.20).
44. Fluorescence behaviour of non-functionalized carbon nanoparticles and their *in vitro*applications in imaging and cytotoxicity assessment to cancer cells, P. Kumar, R. **Meena**, R. Paulraj, A. Chanchal, A.K. Verma and H. B. Bohidar, Colloids and Surfaces B: Biointerfaces, (2012), 1.91(1) 34-40, DOI: 10.1016/j.colsurfb.2011.10.034. (Impact Factor: 4.15).
45. Effect of hydroxyapatite nanoparticles on proliferation and apoptosis of human breast cancer cells (MCF-7), **R. Meena**, K. K. Kesari, M. Rani, R. Paulraj, Journal of Nanoparticle Research, (2012),14:712,doi.org/10.1007/s11051-011-0712-5.(Impact Factor: 2.10).
46. Oxidative stress mediated cytotoxicity of TiO<sub>2</sub> nanoparticles in different organs of wistar rat, **R. Meena** and R. Paulraj, Toxicology and Environmental Chemistry, (2012), 94(1): 146-163, doi.org/10.1080/02772248.2011.638441. (Impact Factor: 0.79).
47. TiO<sub>2</sub>- nano induced apoptosis by oxidative stress mediated DNA damage and activation of p53 in human embryonic kidney cells, **R. Meena**, R. Pal, M. Rani and R. Paulraj, Applied Biochemistry and Biotechnology, (2012), 167(4):791-808, doi: 10.1007/s12010-012-9699-3. (Impact Factor: 1.75).
48. Comparative study of TiO<sub>2</sub> and TiSiO<sub>4</sub> nanoparticles induced oxidative stress and apoptosis of HEK-293 cells, **R. Meena** R, R. Pal, S. N. Pradhan and R. Paulraj, Advanced Material Letter (2012). 3(6), 459-467, DOI: 10.5185/amlet. (Impact Factor: 1.46).