

Name: Dr. Uzma Azeem Awan
Designation: Assistant Professor
Department/Section: Biological Sciences / Biotechnology
Qualifications: PhD (Nanobiotechnology/Nanomedicine)
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Status: On Job
Research Interest:



Nanotheranostics, Nanomedicine, Biomaterials, cancer biology, Optical control (using NIR-Lasers) drug release and gene interference, Drug Delivery, Photothermal therapy, Cell and Molecular Biology

Publications:

1. Interactions of Chitosan Coated Green Synthesized Silver Nanoparticles using Mentha Spicata and Standard Antibiotics against Bacterial Pathogens. Saiqa Andleeb, Zahid Latif, **Uzma Azeem Awan** Tayba Nisar, Habib Raja, Sadia khursheed, kiran Maqbool. Current Pharmaceutical Biotechnology. 2022 Apr. DOI: 10.2174/1389201023666220405120914. PMID: 35382716.2022.
2. Methotrexate-loaded PEGylated gold nanoparticles as hemocompatible and pH-responsive anticancer drug nanoconjugate. Rahman, Mehreen, Jamshaid Ali Khan, Ummarah Kanwal, **Uzma Azeem Awan**, and Abida Raza. Journal of Nanoparticle Research 23, no. 8 (2021): 1-13.
3. Doxorubicin-loaded gold nanorods: a multifunctional chemo-photothermal nanoplatform for cancer management. **Uzma Azeem Awan**, Abida Raza, Shaukat Ali, Rida Fatima Saeed, and Nosheen Akhtar. Beilstein Journal of Nanotechnology 12, no. 1 (2021): 295-303.
4. Advances in colon-targeted nano-drug delivery systems: challenges and solutions. Naeem, Muhammad, **Uzma Azeem Awan**, Fazli Subhan, Jiafu Cao, Shwe Phyu Hlaing, Juho Lee, Eunok Im, Yunjin Jung, and Jin-Wook Yoo. Archives of pharmacal research 43, no. 1 (2020): 153-169.
5. Stable and reproducible synthesis of gold nanorods for biomedical applications: A comprehensive study. **Uzma Azeem Awan**, Shaukat Ali, Mehreen Rehman, Nashmia Zia, Abida Raza. IET Nanobiotechnology. (2018), 12: (2), 182-190.

Book-Chapters

- Nanotechnology for Cancer Biomarkers. Muhaymin, A., **Uzma Azeem Awan**, Haider, A. Naeem, M. Chap. 12 in Cancer Biomarkers in Diagnosis and Therapeutics, (p.345). Springer Nature, 2022.
- Utility of personalized medicine in the treatment of different subtypes of Breast Cancer: Akhtar,N. Qazi,A.S, Saeed,R.A **Uzma Azeem Awan**, Mumtaz, S. In Breast Cancer: From Bench to Personalized Medicine (pp. 337-366). Springer, Singapore. Springer Nature, 2022.
- Role of Fibrinolytic Mechanisms in Breast Cancer Diagnosis, Prognosis and Treatment. Qazi,A.S, Akhtar,N., Saeed,R.A, **Uzma Azeem Awan**, Mumtaz, S. In Breast Cancer: From Bench to Personalized Medicine (pp. 185-211). Springer, Singapore. Springer Nature, 2022.
- Smart Nanocarrier Based Cancer Therapeutics **Uzma Azeem Awan**, Muhammad Naeem, Rida Fatima Saeed, Sara Mumtaz, Nosheen Akhtar, Springer Nature, 2022.
<https://scholar.google.com/citations?user=VBrYvv8AAAAJ&hl=en>

Conferences:

- 2nd International Conference on advances in Material Science, Department of Physics, University of Education, Lahore, Oct-2021.
- International Workshop on Nanomedicine -Development and Challenges March, 2021, organized by COMSTECH Secretariat, Islamabad, Pakistan.
- Ethical and Regulatory Aspects of Clinical Research (Oct 2018) Clinical Research Center, National Institute of Health (NIH), USA.
- Workshop on Advanced Materials Characterization Techniques (Aug 2018) National Centre of Excellence in Physical Chemistry University of Peshawar, Pakistan.
- International Workshop Nanotheranostics from Bench to Bedside & Beyond (Nov 2017) National Institute of Laser and Optronics (NILOP), PAEC, Islamabad, Pakistan
- Laser Safety (Jan 2016) Dept. of Environmental Health and Safety (EHS) Georgia Tech, USA.
- General Biosafety (Feb 2016) Dept. of Environmental Health and Safety (EHS) Georgia Tech, USA.
- Introduction to pathogens (July 2016) Board of Regents, University System of Georgia, USA.
- Hazardous Waste Awareness (Dec 2016) Board of Regents, University System of Georgia, USA.

Research Projects:

S. No	Project Title	PI/Co-PI	Amount	Funding	Duration
1.	Reversal of Multidrug resistance by nano-carrier based chemo-photothermal and molecular targeted therapy in hepatocellular carcinoma	PI	9.1 Million	HEC - NRPU-2021	2021-2024 Ongoing
2.	Optical Triggered Nano Drug Delivery System for Combined Photothermal Ablation and Chemo Therapy against Hepatocellular Carcinoma in Mice	PI	0.6 Million	NUMS-IRF-2022	2022-2023 Ongoing
3.	Hyaluronic acid-functionalized Cyclosporine, a Nano-suspension Enema for Targeted Therapy of Ulcerative Colitis	Co-PI	9 Million	HEC - NRPU-2020	2020-2023 Ongoing
4.	Optically triggered nano drug delivery system: a multifunctional chemo-photothermal platform for hepatocellular carcinoma	PI	0.5 Million	HEC - SRGP-2018	Completed

Other achievements

- **Invited Speaker** at online Conference Series Nanomaterials & Molecular Nanotechnology, 34th Nano Congress for Future Advancements” held during April 27-28, 2022.
- **Invited Speaker** at the “29th International Conference on Nanomedicine and Nanomaterials” held during April 26, 2021 in Webinar organized by Barcelona University and Deusto University, Barcelona.
- **Invited Speaker** in Webinar Series Nanotech and Nanobiotechnology, EuroScicon. UK: London, GB, 28 August 2020.
- **Organizing Committee Member** for 2nd Edition of EuroScicon Webinar on Nanotech & Nanobiotechnology, EuroScicon. UK: London, GB.
- **HEC Travel Grant** for paper presentation at Frontiers of Nanotechnology, United Kingdom (18-20 March 2019).
- **Reviewer** 1. British Medical Journal (BMJ) 2. Pakistan Journal of Zoology (PJZ).
- **Membership** American Society of Chemistry. British Society of Nanomedicine.
- Member NUMS-Departmental quality assurance committee.