

Amirhossein Elahi

PhD Researcher - Translational & Precision Medicine
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PROFESSIONAL PROFILE

PhD researcher in Translational and Precision Medicine at the University of Pavia, with research experience in translational nanomedicine, biomaterials, 3D cancer models and biofabrication. My work focuses on nanoparticle-bio interactions, protein corona formation, alginate-gelatin hydrogels, 3D bioprinting and advanced in vitro tumour models. I also have experience in scientific communication and university teaching.

EDUCATION

PhD in Translational and Precision Medicine, University of Pavia, Italy (2024-present). Doctoral research focuses on advanced in vitro models, bioengineered 3D biological systems and cancer modelling for translational applications.

Master's Degree in Molecular Biology and Genetics, University of Pavia, Italy (2021-2024). Thesis research investigated protein corona formation on gold nanoparticles and its influence on cellular uptake and therapeutic efficiency in cancer models.

Bachelor's Degree in Biology (Animal Science), Shahid Bahonar University of Kerman, Iran (2014-2019).

RESEARCH EXPERIENCE

As a PhD Researcher at the University of Pavia (2024-present), I develop tunable alginate-gelatin hydrogels and bioprinted 3D breast tumour models and investigate the effects of simulated microgravity on protein corona formation around functionalised gold nanoparticles. My work includes bio-ink preparation, optimisation of bioprinting parameters, hydrogel engineering, experimental design, data analysis and scientific communication.

During my Master's thesis research in the Molecular Medicine Laboratory at the University of Pavia (2023-2024), I studied gold nanoparticles for targeted therapy in HER2-positive breast cancer, with particular attention to protein corona dynamics and simulated microgravity. Techniques included UV-Vis spectroscopy, DLS, zeta potential, TEM, SDS-PAGE, BCA assay, ICP-MS and MTT assays.

Previously, as a Research Fellow in Neuroscience at the University of Kerman, Iran (2019-2021), I worked on neuroprotective mechanisms in Parkinson's disease models using in vivo, behavioural, biochemical and histological approaches.

TEACHING & SCIENTIFIC COMMUNICATION

Teaching experience at the University of Pavia includes tutoring international students in the Harvey Course, assisting in Biochemistry Laboratory teaching and experience in the Advanced Biology Laboratory. I have presented research at scientific meetings including EACR, ESB, the University of Pavia PhD Research Symposium, BioTech 2026 and a Nanomedicine meeting. I also produced an Italian scientific podcast on 3D bioprinting and hydrogels in association with the University of Pavia podcast programme.

TECHNICAL SKILLS

Cell culture; PCR; Western blotting; gel electrophoresis; UV-Vis spectroscopy; DLS and zeta potential; TEM; ICP-MS; SDS-PAGE; BCA and MTT assays; hydrogel engineering; bio-ink preparation; CELLINK bioprinting systems; confocal microscopy; Autodesk Inventor; G-code modification; experimental design; data analysis; scientific writing and communication.

LANGUAGES

Persian: Native. English: Advanced, with extensive academic and scientific use. Italian: Elementary.