

Gagandeep Kaur, Ph.D. is a tenure-track assistant professor within the Department of Chemistry at Howard University. She possesses significant expertise in the design and engineering of biomaterial-based platforms for applications in drug delivery and broader biomedical contexts. Kaur received her Ph.D. in Bioorganic Chemistry from Indian Institute of Technology Kanpur (IIT Kanpur), India. Her doctoral research centered on the synthesis, characterization, and application of peptides and peptide-based biomaterials, with a specific focus on investigating their roles in Alzheimer's disease and cancer diagnosis tools.

Following the completion of her doctoral studies, Kaur pursued postdoctoral research at Texas A&M University in College Station. During this period, her research focused on exploring the therapeutic potential of mesenchymal stem cells based extracellular vesicles in the treatment of various autoimmune disorders, including type 1 diabetes, lupus, autoimmune uveitis, and Sjogren's syndrome. This experience broadened her expertise to encompass cellular therapies and their application in complex disease models.

Kaur has accumulated over ten years of professional experience in multidisciplinary research, demonstrating a consistent commitment to advancing scientific knowledge across diverse fields. Her scholarly contributions are evidenced by her authorship of 20 peer-reviewed research publications in reputable scientific journals and one granted patent, further complemented by two pending patent applications.

Currently, Kaur's research program is dedicated to design, development and implementation of precision biomaterials and innovative immunotherapeutic strategies for both the treatment and prevention of chronic diseases and cancerous conditions. Her work seeks to create targeted and effective interventions that address critical unmet medical needs.