MOHINI KAMRA

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Mohini was born and raised in India, where she obtained her bachelor's degree in chemistry from St. Stephen's College, University of Delhi. She then joined a research-intensive Integrated Ph.D. Program (M.S. + Ph.D.) at Indian Institute of Science (IISc), Bangalore, India. During her Ph.D. in chemical biology, her research was focused on an array of unique biocompatible systems of natural origin as vectors for anti-cancer gene and drug delivery. In her Postdoctoral training she worked on novel ways to reprogram tumor microenvironment and maneuver the immune responses. She also participated in developing anti-viral immune engagers for influenza. As a Research Fellow at UT Austin, her research was aimed at probing cancer cell metabolism for chemosensitization and exploiting the process of protein condensation for functional roles in drug delivery.

Mohini joined as faculty at BMD at South in August 2025. Her lab's research, with a central focus on women's health) is aimed at developing stimuli-responsive biomaterials for metabolic disorders in women. Some of these disorders, being chronic, are considered subjects of "management" and do not have a directed therapy in place. She likes to use her "engineering view of science" to train budding researchers to generate implementable solutions for polycystic ovarian syndrome (PCOS), postpartum breast cancer (PPBC) and postpartum obesity. Through her lab's research, her team is involved in strategically functionalizing natural polysaccharides to add target-specific therapeutic effects, while retaining their basic properties of forming hydrogels for entrapment and slow release. They also derivatize metabolically beneficial lipids to generate disease-targeted nutraceuticals which can be further delivered locally using an ECM-mimicking hydrogel implant. Her group's research on therapeutic tampons, premetastatic hydrogel niches and protein chimeras, has the potential to form industrial collaborations to drive the developed therapeutic hydrogel materials all the way to device design and patient applications. The above research program the ability to make an immediate impact to the society owing to its translative potential ensuring improved healthcare accessibility for women in our society.