



Prof. Bipin Kumar
Department of Textile Technology

Research Expertise
Fabric Engineering
Functional Textiles
Medical Textiles
Textile/Polymer physics and Mechanics

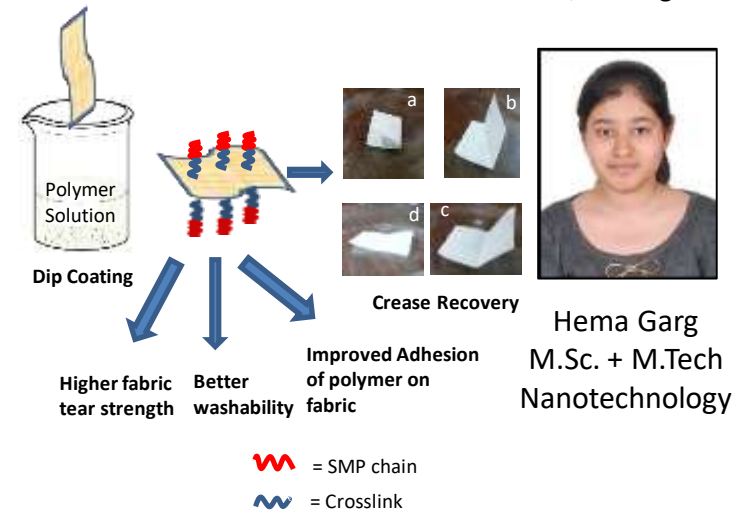
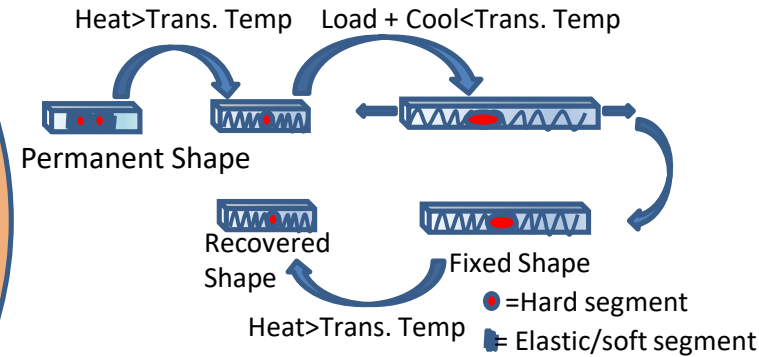
Shape Memory Polymers for Textile Finishing



Prof. Bijay Prakash Tripathi
Department of Material Science and Engineering

Research Expertise
Functional Materials
Nanoporous membranes
Membranes for energy application
Separation and purification

Shape Memory Polymers (SMP)



Hema Garg
M.Sc. + M.Tech
Nanotechnology

Shape memory polymers have gained a lot of research interest as shape changing material due to their ability to memorize its permanent shape as well as its synthetic flexibility. However, due to its low adherence with the textile substrate, its performance is limited in the textile industry. Therefore, to achieve optimum shape memory effect on the textile fabric, there is a need for efficient transfer of polymer onto it via chemical crosslinking. Many researchers have adopted coating and finishing techniques for this, but have attained only physical linking of SMPU with the textile substrate. The present research aims to synthesize novel shape memory polymers that can directly crosslink with the textile fabric, targeting increased adhesion, improved fabric tear strength, better washability, abrasion resistance, and crease recovery properties. The research is highly interdisciplinary in nature and involves the relevant research expertise of a polymer and textile engineer.