

ECO-MANUFACTURING OF SHAPE MORPHING AND SUSTAINABLE NANOMATERIALS

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Abstract: Given the climate change and everhot planet, we face resource scarcity and greenhouse gas emission. It begs for innovative approaches to reduce manufacturing waste, reuse and repurpose materials, thus, minimizing carbon footprint. Yang will discuss assembly and eco-manufacturing of environmentally adaptive, shape morphing and sustainable nanomaterials (polymers, cellulose, silk, and composites) over multiple lengthscales for energy harvesting or heat, light, moisture mitigation. She will highlight developments that are inspired by biological organisms for better use of natural resources.

Bio: Shu Yang is a Joseph Bordogna Professor of Engineering and Applied Science, Chair of the Department of Materials Science & Engineering, and Professor of Chemical & Biomolecular Engineering at University of Pennsylvania. Her group is interested in synthesis, fabrication, and assembly of soft matter and use geometric tools to create shape changing and sustainable materials overall multiple scales. Yang received her B.S. degree from Fudan University, and Ph. D. degree from Cornell University. She was a Member of Technical Staff at Bell Laboratories, Lucent Technologies before joining Penn. She received International Liquid Crystal Society Mid-Career Award, George H. Heilmeier Faculty Award for Excellence in Research from Penn Engineering and was selected as one of the world's top 100 young innovators under age of 35 by MIT's Technology Review. She is a Fellow of American Chemical Society (ACS), Materials Research Society (MRS), Division of Soft Matter (DSOFT) from American Physical Society (APS), Royal Society of Chemistry, and National Academy of Inventors