Novalia (Nova) Pishesha, PhD
Assistant Professor
Immunology
Boston Children's Hospital
Exploiting Antigen Presentation Pathways for Precision Immune Engineering

Novalia (Nova) Pishesha earned her PhD in Biological Engineering from MIT in 2018, where her research focused on the engineering of red blood cells for the treatment of autoimmune diseases, hyperlipidemia, and the development of biodefense strategies against lethal bioweapons. Following her graduation, Nova was elected a Junior Fellow at the Harvard Society of Fellows and continued her research in the laboratories of Professors Hidde Ploegh and Sangeeta Bhatia at the Boston Children's Hospital and the Koch Institute, respectively. Her work has since revolved around alpaca-derived single domain antibody fragment (nanobody)-based platform to create novel therapeutics for immune modulation, specifically for treating various autoimmune diseases and enhancing vaccine efficacy. In 2022, she co-founded a biotech company, Cerberus Therapeutics, based on this technology.

Nova has been recognized as one of the 2021 MIT Technology Review Innovators Under 35 for the Asia Pacific region and was listed in The Boston Globe's STAT+ Wunderkinds. She is also a recipient of the National Multiple Sclerosis Foundation Career Transition Award. In January 2024, Nova initiated her own laboratory at the Boston Children's Hospital and Harvard Medical School, where she serves as an Assistant Professor in the Division of Immunology. Her lab is dedicated to advancing the understanding and application of immune engineering to combat pathogenic immunity.

Keynote presenter