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Pamela Bjorkman received a B.A. in Chemistry from the University of Oregon and a PhD in Biochemistry and Molecular Biology from Harvard University. As a graduate student and postdoctoral fellow with Don Wiley at Harvard, she solved the first 3-D structure of a major histocompatibility complex (MHC) molecule, which functions to present pieces of potentially dangerous pathogens to T lymphocytes during immune recognition of infected cells. Dr. Bjorkman continued her postdoctoral training at Stanford with Mark Davis, where she worked on T cell receptors, joining the faculty at the California Institute of Technology (Caltech) in 1989.

Dr. Bjorkman's laboratory studies the structural basis of the host immune response to viruses such as HIV-1 and coronaviruses. They use structural studies of antibody recognition of viral fusion proteins to design improved antibody therapeutics and immunogens to elicit broad and potent antibodies for vaccines. In particular, they have used protein nanoparticles presenting HIV-1 or SARS-like betacoronavirus (sarbecovirus) antigens to elicit cross-reactive neutralizing antibody responses. For example, they have shown that a mosaic nanoparticle that co-displays multiple sarbecovirus spike receptor-binding domains elicits cross-reactive immune responses that are protective against SARS-CoV-2 and SARS-CoV challenges in animal models, demonstrating the potential for a protective pan-sarbecovirus vaccine against future SARS-CoV-2 variants and sarbecoviruses that could spillover into humans from animal reservoirs to cause another epidemic or pandemic.





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Dr. Bjorkman is a member of the US National Academy of Sciences, the American Academy of Arts and Sciences, and the American Philosophical Society. She has received the William B. Coley Award for Distinguished Research in Fundamental Immunology (1993), the Gairdner Foundation International Award (1994), the Paul Ehrlich and Ludwig Darmstaedter Award (1996), the Max Planck Research Award (2002), the University of Oregon Department of Chemistry Alumni Achievement Award (2003), was the L'OREAL-UNESCO Women in Science North American Laureate in 2006, received an NIH Director's Pioneer Award in 2010, the Ceppellini Award (European Federation for Immunogenetics) in 2019, was a Citation Laureate in Physiology or Medicine (2020), and received the Delphine Parrott award and the Pearl Meister Greengard prize in 2021.

