Pratip Chattopadhyay is an Associate Professor and founding Director of NYU Langone Health's Precision Immunology Laboratory (PIL). His laboratory performs independent research in tumor immunology and provides cutting-edge immune monitoring services for a wide variety of biomedical disciplines (cancer, infectious disease, etc). He uses high parameter cytometry technologies, including 30-parameter flow cytometry and combined protein/mRNA analysis by RNA sequencing (molecular cytometry), to reveal biomarkers that predict patient outcomes, better understand disease pathogenesis, and inform rational design of combination drug therapies.

Dr. Chattopadhyay has a history of innovative work in the cytometry and immunoassay space. In 2005, as a post-doctoral fellow in Mario Roederer's laboratory (VRC/NIH), he developed a novel assay for enumeration and isolation of antigen-specific CD4+ T-cells, based on CD154 expression (Chattopadhyay, et al. Nature Medicine, 2005). In 2006, he reported the first 18-color flow cytometry experiments, which were used to comprehensively characterize antigen-specific T-cells against multiple antigenic epitopes in the same tube (Chattopadhyay, et al. Nature Medicine 2006); this study was the first use of quantum dots for flow cytometry. In 2008, he performed the first flow cytometry experiments with the Brilliant family of fluorescent dyes, which were published in 2010. This work increased the multiplexing capability of advanced flow cytometers, culminating in the development of the most advanced flow cytometry system in the world (30-parameter flow cytometry). Dr. Chattopadhyay co-led this effort for the Roederer Lab with BD Biosciences. He also led the first CyTOF program at the NIH, and contributed to the development of CITE-seq (benchmarking the new technology against flow cytometry, Nature Methods 2017). Finally, Dr. Chattopadhyay played a key role in the development of a number of bioinformatics tools for analyzing high parameter data, including SPICE (Roederer), flowType and R-chyoptimyx (Aghaheepour and Brinkman), and terraFlow (new from the Chattopadhyay lab). Recently, the lab introduced a unique tool for building high parameter flow cytometry panels, known as Color Wheel.

Dr. Chattopadhyay serves as an Associate Editor for the journal Cytometry and the Journal of Immunologic Methods. He was a council member for the International Society for the Advancement of Cytometry (ISAC), and was Scientific Chair for CYTO2019, and planned and emceed CYTO Virtual 2020. He is a proud graduate of the Johns Hopkins Bloomberg School of Public Health (Ph.D.) and the University of Virginia (B.A.). He lives in Mendham, New Jersey with his wife, daughter, and three dogs.