Mechanical force plays a critical role in regulating many aspects of biological function and structure, particularly at the nanoscale. My research group develops and applies methods in single-molecule manipulation to understand the force-dependent dynamics of biological interactions. I will present some methods that we are developing, including massively parallel single-molecule force measurements using centrifugal force, and nanoscale devices built using DNA origami, and demonstrate how these approaches can bring new insights into biological processes such as blood clotting and hearing.

Host: Dr. Michael Forbes