The ongoing COVID-19 pandemic, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), remains a global challenge. Despite intense research efforts worldwide and the effective rollout of vaccines, there is still a need to develop drugs for treating this deadly disease. My research team, in collaboration with Dr. Bhattacharyay, is using computational methods to understand COVID-19 at the molecular-level to prevent and reduce the severity of the infection. In particular, we are investigating the factors that could impact the binding of the virus spike protein to the human cell surface receptor, angiotensin-converting enzyme 2, with the hope of developing effective drugs to cure COVID-19.