Faculty of Engineering and Applied Science
Chemical Engineering Seminar Series

Revealing Biomolecular Mechanism for Controlling Aqueous Adhesion and Lubrication

Dr. Roberto C. Andresen Eguiluz/University of California Merced

Thursday, March 28, 2024, 2:30pm

Dupuis Hall, Room 217

The Surface Forces Apparatus (SFA) is a force spectroscopic technique to directly measure the interaction forces between two macroscopic surfaces, with sub-nanometer distance resolution and tens of piconewton force sensitivity. Combined with multiple beam interferometry (MIB), it allows us to observe interfacial phenomena in real time and in situ. This seminar will describe the SFA, and how we are using it to elucidate the molecular mechanisms that allow bacteria stick to surfaces in aqueous and salt-rich environments, as well as the molecular interactions that regulate friction and wear in synovial joints.