BME Distinguished Lecturer

Gilda A. Barabino, PhD
Dean of the Grove School of Engineering
The City College of New York

Host: Warren Grayson, Associate Professor

Monday, April 30
4:00 p.m.
Smith Building Atrium
School of Medicine Campus
Reception to follow

Sickle Cell Biomechanics and Disease Pathology

Abstract: Sickle cell disease (SCD) is a debilitating genetic blood disorder affecting 100,000 Americans and millions worldwide. SCD induces chronic inflammation and vascular dysfunction and causes multiple organ damage as a result. The pathophysiology of SCD is quite complex and involves altered interactions between blood cells and endothelial cells lining the vessel walls, altered mechanical properties of blood and blood vessels, and altered tissue properties in affected organs. Although the molecular defect associated with aberrant sickle hemoglobin is well understood and the polymerization of sickle hemoglobin and sickling of red blood cells has been extensively studied, effective treatment remains elusive. This presentation illustrates how the application of mechanical approaches to elucidate mechanisms underlying disease pathophysiology can lead to new developments in diagnosis, prognosis, and treatment.

Biography: Gilda A. Barabino is Dean of The Grove School of Engineering at The City College of New York, where she holds the Daniel and Frances Berg Professorship in Engineering and appointments in the Departments of Biomedical and Chemical Engineering and in the CUNY School of Medicine. Prior to joining The City College of New York she served as Associate Chair for Graduate Studies and Professor in the Department of Biomedical Engineering at Georgia Institute of Technology and Emory University. At Georgia Tech she also served as the inaugural Vice Provost for Academic Diversity. Prior to her appointments at Georgia Tech and Emory, she rose to the rank of Full Professor of chemical engineering and served as Vice Provost for Undergraduate Education at Northeastern University. Dr. Barabino’s research is broadly focused on the role of biomechanics in health and disease in the context of sickle cell disease and orthopedic tissue engineering. She also investigates the influence of gender, race, and ethnicity in STEM and is a recognized innovator and consultant on diversity in higher education.

Dr. Barabino is Past-President of the American Institute for Medical and Biological Engineering (AIMBE) and Past-President of the Biomedical Engineering Society (BMES). She is the recipient of many awards and honors; among them, AIMBE’s highest honor, the Pierre Galletti Award and an honorary doctorate from Xavier University of Louisiana. She is a fellow of the American Association for the Advancement of Science, the American Institute of Chemical Engineers, the American Institute for Medical and Biological Engineering, and the Biomedical Engineering Society. Dr. Barabino received her B.S. degree in Chemistry from Xavier University of Louisiana and her Ph.D. in Chemical Engineering from Rice University.