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Wall shear stress fixed points in blood flow AMIRHOSSEIN ARZANI, Northern Arizona University, SHAWN SHADDEN, University of California Berkeley — Patient-specific computational fluid dynamics produces large datasets, and wall shear stress (WSS) is one of the most important parameters due to its close connection with the biological processes at the wall. While some studies have investigated WSS vectorial features, the WSS fixed points have not received much attention. In this talk, we will discuss the importance of WSS fixed points from three viewpoints. First, we will review how WSS fixed points relate to the flow physics away from the wall. Second, we will discuss how certain types of WSS fixed points lead to high biochemical surface concentration in cardiovascular mass transport problems. Finally, we will introduce a new measure to track the exposure of endothelial cells to WSS fixed points.

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