

Johns Hopkins University

Center for Environmental & Applied Fluid Mechanics

3:00 PM, Friday, April 24, 2026

Gilman Hall 50

Zoom: <https://wse.zoom.us/j/93762992307>

[Link for Spring 2026 recordings](#)



Prof. Keefe B. Manning

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“The Challenges of Validating Computational Models Related to Blood Clotting: An Experimentalist Perspective”

Abstract: Blood clotting remains a significant clinical issue manifesting in heart attacks and strokes but also challenges the success of cardiovascular devices. Given the complex process associated with clotting, developing accurate computational models is difficult as validation needs to occur over a range of flow and surface interactions and at different temporal and spatial scales. Clots are particularly interesting because of their inherent heterogeneity and that blood is a suspension that can change to a solid structure and dissolve akin to water freezing and melting. Leveraging canonical experiments that acquire a breadth of data will be crucial to validate any computational model, but do these experiments accurately represent how thrombi form, deform, and embolize in the context of devices, stroke, and deep vein thrombosis? This presentation will cover the development and experimental validation of our computational models in these areas and the complications posed with blood experiments towards validating these models.

For more details, visit: <https://www.bme.psu.edu/departement/directory-detail-g.aspx?q=KBM10>

Hosted by: Prof. Rui Ni (MechE).