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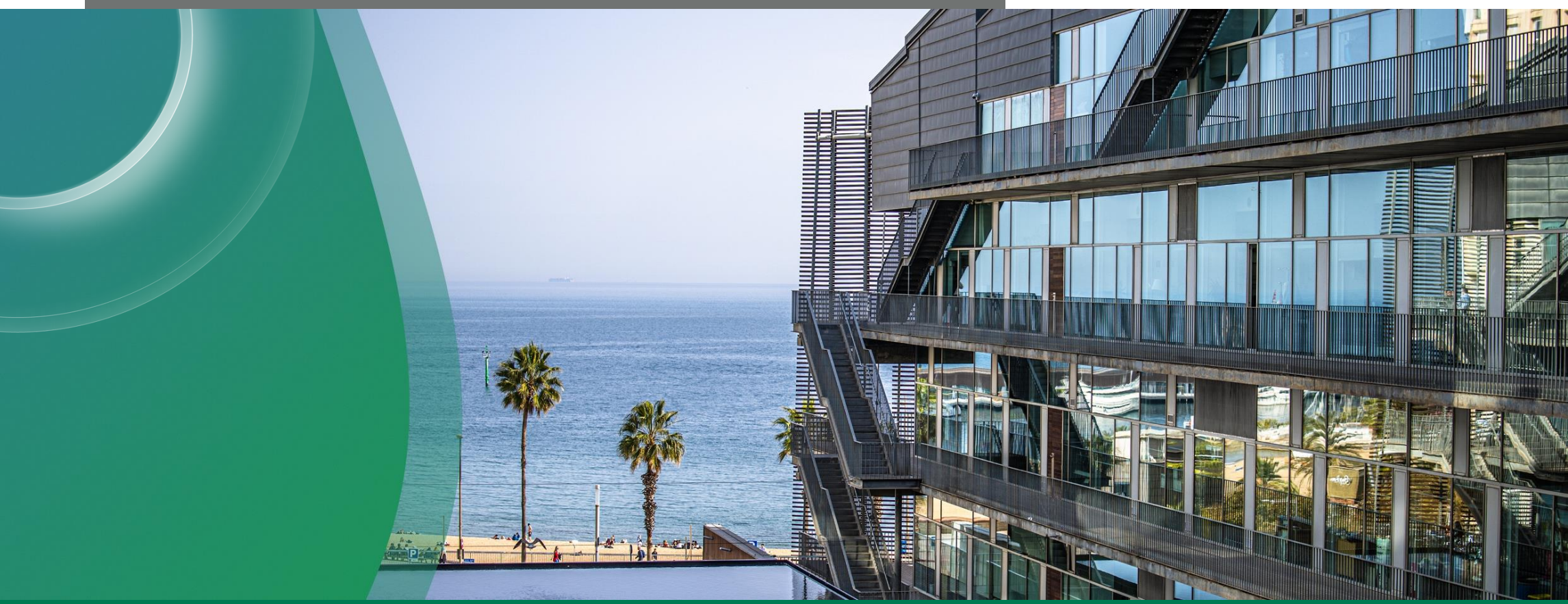


Shailaja Seetharaman

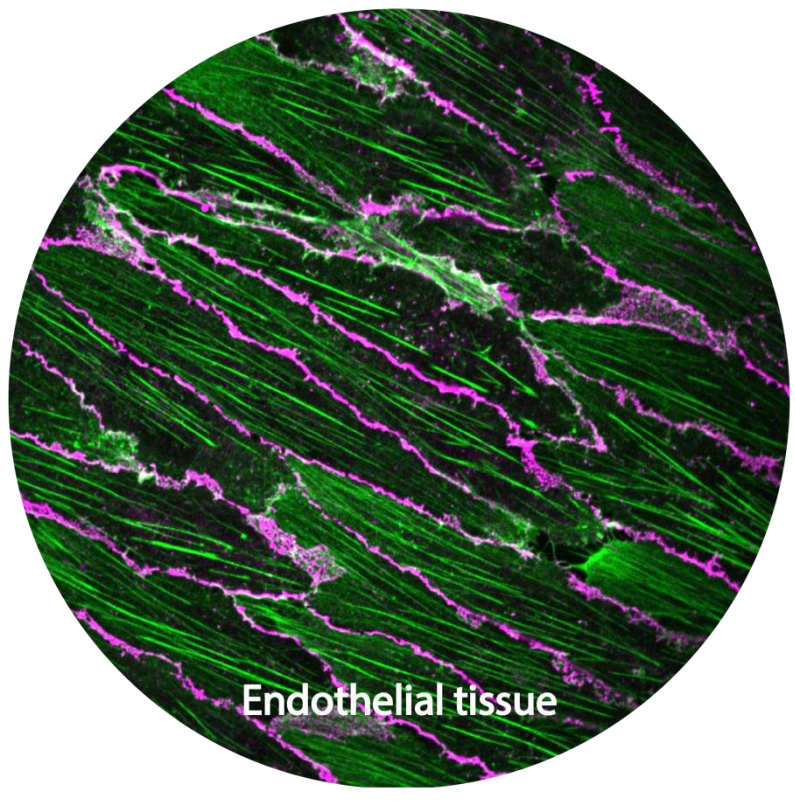
National University of Singapore

9 March 2026, 12pm

Barcelona, Charles Darwin– PRBB

Vascular Mechano-Medicine: Decoding Disease Mechanisms and Engineering Tissue Physiology

Abnormalities in blood vessel and blood flow properties are key drivers of severe cardiovascular and cerebrovascular pathologies. In this talk, I will first present our recent findings on uncovering novel mechano-biochemical feedback loops that drive endothelial dysfunction in atherosclerosis. I will highlight how blood flow profiles trigger transcriptional control of force-sensitive proteins, which mediate cytoskeletal crosstalk and cellular adaptation during endothelial dysfunction. I will also outline our efforts in developing machine learning (ML) models for predicting tissue-scale function in health and disease. This work opens new avenues for decoding mechano-biochemical feedback across scales in cardio- and cerebrovascular diseases and enables the engineering of physiological vascular tissue function.



2026 schedule coming soon!

A seminar series inviting international researchers, organized by EMBL Barcelona postdocs, open to all

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