UC DAVIS HEALTH | SCHOOL OF MEDICINE

Department of
Physiology and Membrane Biology

# Distinguished Lecture Series in Physiology


## Rengasayee Veeraraghavan, Ph.D.

Associate Professor
Department of Biomedical Engineering
The Ohio State University


# "The dynamic nature of cardiac nanostructure: implications for health and disease"


Growing evidence indicates that cardiac biology and physiology at cellular through organ scales are governed by the action of proteins organized within nanodomains with specialized ultrastructural properties. Multiple phenomena have been identified, whose function and dysfunction cannot be predicted without accounting for the makeup and behavior of nanodomains. Thus, my laboratory's investigative approach is grounded in high resolution structural and functional imaging, complemented by our development of novel imaging and image analysis approaches. I will present work illustrating how we integrate super-resolution microscopy and quantitative image analysis with functional experimental methods and computational modeling to understand cardiac electrophysiology in health and disease. I will compare and contrast how disruption of cardiac nanostructure promotes arrhythmias in inherited and acquired (acute inflammation, myocardial infarction) diseases. Lastly, I will touch on how challenges posed by our life science research motivates our development of imaging and image analysis technologies.


## Thursday, October 2, 2025
## GBSF and Zoom
## 12 p.m.

## October 2


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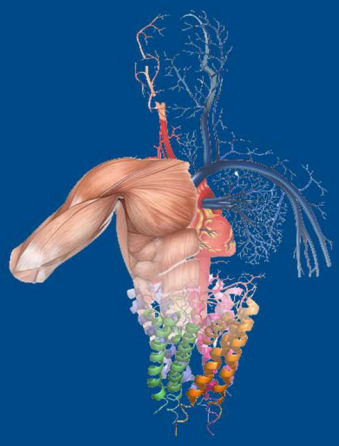

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