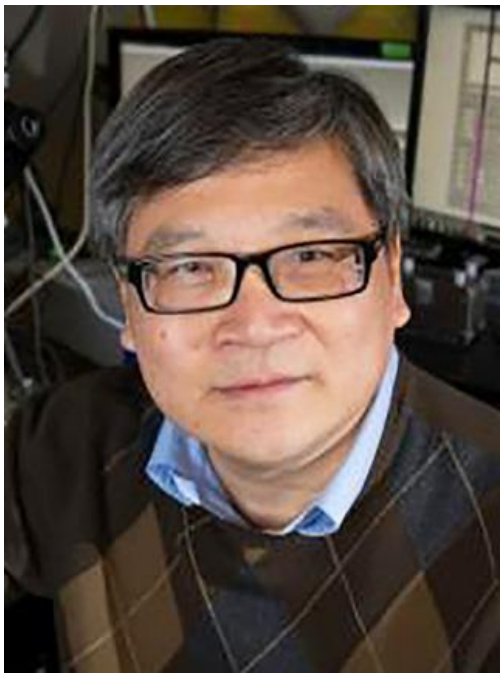
FRONTIERS IN BIOPHYSICS

SEMINAR SERIES (FBSS) | FALL 2022

(In-PERSON in MJIS 1001 + via ZOOM)

Wednesday, December 7, 2022 @ 1:30 PM

--> FBSS ZOOM LINK <--



Mechanosensing Through Immunoreceptors

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The immune response is orchestrated by a variety of immune cells. The function of each cell is determined by the collective signals from various immunoreceptors, whose expression and activity depend on the developmental stages of the cell and its environmental context. Recent studies have highlighted the presence of mechanical force on several immunoreceptor–ligand pairs and the important role of force in regulating their interaction and function. In this Perspective, we use the T cell antigen receptor as an example with which to review the current understanding of the mechanosensing properties of immunoreceptors. We discuss the types of forces that immunoreceptors may encounter and the effects of force on ligand bonding, conformational change and the triggering of immunoreceptors, as well as the effects of force on the downstream signal transduction, cell-fate decisions and effector function of immune cells.

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