Holcombe Department of Electrical and Computer Engineering Seminar Series

Structure, dynamics, and function of membrane domains

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Abstract
Cell membranes consist of mixtures of proteins and lipids that can laterally segregate to form functional complexes termed membrane domains. Lipid rafts are one of the best-studied examples of membrane domains and are thought to participate in numerous cellular functions ranging from membrane trafficking to cell signaling. Despite extensive study, many of the fundamental properties of lipid rafts are still unclear. Our group has used a variety of biophysical and fluorescence microscopy-based techniques to study how the structure, dynamics, and function of lipid rafts are regulated in living cells. I will discuss what our studies have revealed about the basic properties of lipid rafts, and describe ongoing efforts to better understand how pathogens such as cholera toxin hijack lipid rafts to enter cells.

Biography of Speaker
Dr. Kenworthy is an Associate Professor in the Department of Molecular Physiology and Biophysics at Vanderbilt School of Medicine and has been a member of the faculty at Vanderbilt since 2001. Her group uses quantitative fluorescence microscopy to study membrane domains, membrane trafficking, and protein dynamics in cells.