

***Weldon School of Biomedical Engineering  
Distinguished Lecture Series***

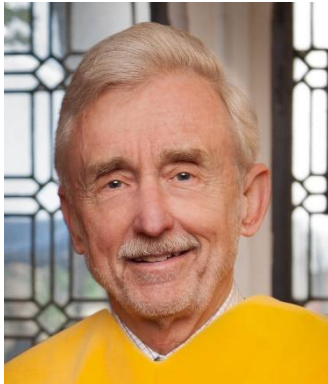
Wednesday Oct 3<sup>rd</sup>, 2018

9:30-10:30 am at MJIS 1001

**Prof. Thomas D. Pollard**

Yale University

**“Molecular Mechanism of Cytokinesis”**



Professor Pollard’s laboratory combines microscopy, biochemistry, biophysics, molecular biology and mathematical modeling to study the mechanism cytokinesis. His lab characterized important contractile ring proteins (actin, formins, profilin, cofilin, myosin-II and anillin) and developed methods to count protein molecules in live fission yeast cells by fluorescence microscopy, measuring the numbers and dynamics of more than 20 contractile ring proteins. Recently they determined the substructure of the precursors of the contractile ring by high-speed super-resolution fluorescence microscopy of live cells. This body of quantitative data allowed the lab to formulate and test molecularly explicit mathematical models for contractile ring assembly and constriction. Simulations of these models accurately account for events in live cells and provide the physical basis for mechanistic studies of the biochemical systems that regulate the transitions in the system during the cell cycle.