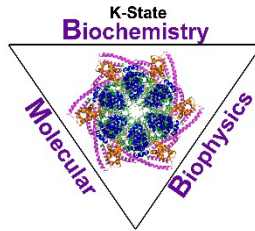


Ackert Hall, Room 120
Wednesday, September 25, 2024
4:00 P.M.



Coffee and Cookies
Chalmers Hall, Room 168
3:45 P.M.

Biochemistry
&
Molecular
Biophysics

Seminar

Mechanistic Insights into Myosin-Based Muscle Diseases

Sanford Bernstein

Biology
San Diego State University

The molecular motor myosin serves a critical role in skeletal muscle and heart contraction. Mutations in myosin are the basis of both skeletal and cardiac myopathies. Using a transgenic approach in *Drosophila melanogaster*, we are defining the roles of isoform-specific domains of muscle myosin heavy chain. Our integrative approach spans structural biology, biochemistry, biophysics, cell biology, muscle mechanics and assays of whole organism location. In recent years, we have produced and analyzed models of myosin-based human disease and aging-related myosin post-translational modifications. These studies provide insights into defects in myosin that drive childhood over-contraction disease (distal arthrogyrosis), aggregation-based diseases (inclusion body and myosin storage myopathies), as well as hypertrophic and dilated cardiomyopathy.