

Single Molecule Workshop: Theory Meets Experiment

06/26/2018 - 06/30/2018

Breakfast Every Morning 9:00am at TSRC

Tuesday June 26, 2018

9:30 – 10:10 Ken Ritchie (Purdue)

Title: The Serine Chemoreceptor

10:10 – 10:50 Sabrina Leslie (McGill)

Title: Visualizing structure-mediated DNA interactions and dynamics

10:50-11:10 **Break**

11:10 – 11:50 Julio Fernandez (Columbia)

Title: Disulfide bonds: the mechanical power switches of titin folding

Wednesday June 27, 2018

9:30 – 10:10 Matt Comstock (Michigan State)

Title: Combined force ramp and equilibrium high resolution tweezes investigations reveal multi-path unfolding of Protein G at low force

10:10 – 10:50 H. Peter Lu (Bowling Green State)

Title: Mechanical Force Manipulation and Optical Imaging of Protein Dynamics from Single Molecules to Living Cells

10:50 – 11:10 **Break**

11:10 – 11:50 David Garcia (NIH/Maryland)

Title: A New Model for Single-Molecule Tracking Analysis Reveals Novel Emergent

11: 50 – 12:30 Raymond Dean Astumian (Maine)

Title: Adaptation away from equilibrium: Kinetics and Thermodynamics of catalysis driven steady-states

Thursday June 28, 2018

9:30 – 10:10 Jianshu Cao (MIT)

Title: Conformational Effects in Enzymes and in Data Analysis

10:10 – 10:50 Rafael Tapia-Rojo (Columbia)

Title: Magnetic tape head force spectroscopy for ultra-fast force changes: two practical applications

10:50 – 11:10 **Break**

11:10 – 11:50 Andrew Marcus (Oregon)

Title: Using microsecond single-molecule FRET to determine the assembly pathways of T4 ssDNA binding protein onto model DNA replication forks

Friday June 29, 2018

9:30 – 10:10 Nils Walter (Michigan)

Title: The RNA nanomachines of gene expression dissected at the single molecule level

10:10 – 10:50 Doug Shepard (Colorado)

Title: Improved integration of single-molecule, single-cell gene expression experiments and predictive models

10:50 – 11:10 **Break**

11:10 – 11:50 Steve Pressé (Arizona State)

Title: Novel Statistical Tools for Single Molecule Imaging: A foray into Bayesian nonparametrics

11:50 – End Wrap-up discussion.