

# **SINGLE MOLECULAR TELLURIDE WORKSHOP**

## **July 12-15, 2016**

*Presented by  
Professor Jianshu Cao, MIT  
and  
Professor Ken Ritchie, Purdue University*

### **Tuesday, July 12**

*8:30 am Breakfast*

9:30 – 10:10 Kingshuk Ghosh, University of Denver  
“Protein and proteome folding, Feynmann diagrams and Evolution”

10:10 – 10:50 JinYu, Beijing Computational Science Research Center  
“Revealing essential physics from key biomolecular machines combining  
chemical kinetics with molecular dynamics”

*10:50 – 11:10 Coffee Break*

11:10 – 11:50 James Weisshaar, University of Wisconsin-Madison  
“Spatiotemporal Organization of the *E. coli* Cytoplasm”

*11:50 – 1:30 Lunch Break*

1:30 – 2:30 Ken Ritchie, Purdue University  
“High-speed single molecule tracking of molecules in cells”

## **Wednesday, July 13**

8:30 am      *Breakfast*

9:30 – 10:10 Raymond Astumian, University of Maine  
“Microscopic reversibility: the organizing principle for understanding chemically driven molecular machines”

10:10 – 10:50 Jianshu Cao, Massachusetts Institute of Technology  
“Conformational regulation of enzymatic turnovers and RBC cytoadherence”

10:50 – 11:10 *Coffee Break*

11:10 – 11:50 Nils Walter, University of Michigan  
“RNA Pathways Dissected at the Single Molecule Level: The Power of Integrating Experimental and Computational Approaches”

11:50 – 12:30 Steven Magennis, University of Glasgow  
“DNA structure and dynamics under molecular crowding conditions”

## **Thursday, July 14**

8:30 am      *Breakfast*

9:30 – 10:10 Steve Presse, Indiana University-Purdue University Indianapolis  
“Learning and inference from single molecule, mostly in vivo”

10:10 – 10:50 Peng Chen, Cornell University  
“Spatiotemporal catalytic dynamics on single nanocatalysts”

10:50 – 11:10 *Coffee Break*

11:10 – 11:50 Sanjeevi Sivasankar, Iowa State University  
“Biological ice-nine: resolving the structural conversion, aggregation and neurotoxicity of prion proteins at the single molecule level”

11:50 – 1:30 *Lunch*

1:30 – 2:30 Julio Fernandez, Cornell University  
“Detecting disulfide bonds with force spectroscopy”

## **Friday, July 15**

*8:30 am Breakfast*

9:30 – 10:10 Takahiro Fujiwara, Kyoto University  
“Plasma membrane compartmentalization and function as revealed by high-speed single-molecule microscopy”

10:10 – 10:30 Hossein Jashnsaz, Indiana University-Purdue University Indianapolis  
“Hydrodynamic Hunters”

10:30 – 10:50 Meysam Tavakoli, Indiana University-Purdue University Indianapolis  
“Physics of drug transport”

*10:50 – 11:10 Coffee Break*

11:10 – 11:50 Xinliang Xu, Beijing Computational Science Research Center  
“Understanding correlations between DNA local deformations, through modeling and simulation”