

Telluride Workshop

“Single Molecule Measurements: Theory and Experiment”

Location: Telluride Intermediate School, 725 W. Colorado, Telluride
Also known as High School – large brick building on the left as you enter the town.

TSRC Hosts: Nana Naisbitt 970-708-004 and Rory Sullivan 970-708-4542

Breakfast will be served daily before the talks at the workshop location.

Sunday Night, July 28

6-9 pm Welcome Reception for all parallel workshops (no food)
New Sheridan Bar, 231 W Colorado Ave, in Telluride.

A TSRC representative will hand out badges, introduce you to town, and answer any questions. Drink specials available with your badge. Guests and family members are welcome.

The scientific program starts at 8:15 am on Monday, July 29 and ends at 11:30 am on Thursday, August 1st.

Each talk is scheduled for 40 minutes + 5 minutes for discussion. Interruptions and questions during talks are encouraged.

There is a “town talk” on Tuesday evening and a picnic on Wednesday evening.

Monday, July 29

Morning

- 7:45 am *Breakfast*
- 8:15 am Roger Loring, Cornell University
“Interpreting single turnover measurements of nanoparticle catalysis”
- 9:00 am Feng Gai, University of Pennsylvania
“Single-molecule study of the dynamics of M2 proton channel“
- 9:45 am *Coffee Break*
- 10:00 am Simon Scheuring, Université Aix-Marseille
“High-speed atomic force microscopy :
Integration with optical microscopy and high-speed force spectroscopy”
- 10:45 am Steve Presse, Indiana University
“Inferring models of single molecule dynamics from noisy data”
- 11:30 am Free time

Tuesday, July 30

Morning

- 7:45 am *Breakfast*
- 8:15 am John Pearson, Los Alamos
“Messages Diffuse Faster than Messengers: Pitfalls in the Interpretation of Labeled Particle Motion”
- 9:00 am Jianshu Cao, MIT
“Non-equilibrium conformational fluctuations in enzyme kinetics and red blood cell elasticity ”
- 9:45 am *Coffee Break*
- 10:00 am Xinsheng Zhao, Peking University
“How fast does a mismatched base-pair in dsDNA flip?”
- 10:45 am Steven Magennis, University of Manchester
“Exploring new applications of ultrafast lasers for single-molecule detection”
- 11:30 am Brian Todd, Purdue University
“Diffusion limit of reaction rates in biological systems”
- 12:15pm Free time
- 6:00 pm *Town Talk*, Historic Sheridan Opera House at 110 N. Oak St

Wednesday, July 31

Morning

7:45 am *Breakfast*

8:15 am Sunny Xie, Harvard University
“Mechanism of Transcriptional Bursting”

9:00 am Xinliang Xu, MIT/SUTD
“Mechanical properties of single DNAs: allosteric protein binding, loop formation, and longitudinal fluctuations”

9:45 am *Coffee Break*

10:00 am Dima Makorov, University of Texas at Austin
“Dynamics of unfolded proteins through single-molecule fluorescence resonance energy transfer, polymer theory, and atomistic simulations”

10:45 am Nikolai Sinitsyn, Los Alamos
“Information Content of Single Molecule Event Statistics”

11:30 pm Free time

6:00 pm *Picnic*, Ah Haa School for the Arts at 300 S. Townsend

Thursday, August 1st

Morning

- 7:45 am *Breakfast*
- 8:15 am Peter Lu, Bowling Green State University
“ Probing Ion Channel Protein Conformational Dynamics by Combined Single-Molecule Patch-Clamp Electric Recording and Photon Stamping Spectroscopy.”
- 9:00 am Sanjeevi Sivasankar, Iowa State University
“Tuning the kinetics of cell-cell adhesion”
- 9:45 am *Coffee Break*
- 10:00 am Diego Krapf, Colorado State University, Fort Collins
“Anomalous diffusion on the plasma membrane enhances endocytic reactions”
- 10:45am Ken Ritchie, Purdue University
“Studies of protein mobility in E. coli”
- 11:30 am Informal Discussions, Collaborations