TSRC Water Structure, Dynamics and Thermodynamics in Biology *Organizers*: Matthias Heyden, Sihyun Ham and Songi Han *Location*: Telluride Intermediate School, 725 W Colorado Ave Telluride CO, 81435



	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
Time	6/15	6/16	6/17	6/18	6/19	6/20
8:30-9:00		Breakfast (8:50-9 Matthias Heyden, Sihyun Ham, and Songi Han Opening remarks)	Breakfast	Breakfast	Breakfast	Wrap-up Discussion 8:30-10 AM
9:00-9:45		S Roke Ion hydration and water structure in biomolecule solutions		M Havenith Wrapping up Hydrophobic Hydration – Locality Matters		What are the outstanding questions, challenges and opportunities in advancing
9:45-10:30		E Pines Carbonic acid as an important protonation agent in biology; water makes it or breaks it Break S Cheng Investigating the Role of Water in Liquid-Liquid Phase Separation of Proteins Using a Coarse-grained Model J Franck Advances in Overhauser Dynamic Nuclear Polarization Methodology	Free Time	A Markelz Protein Isotropic and Anisotropic THz Spectroscopy: Recovering the intramolecular vibrations from a watery sea	Free Time	our understanding of biological hydration water?
10:30-11:00				Break		
11:00-11:45				V Nguyen Probing the hydration and protein collective motions by megahertz to terahertz spectroscopy		
11:45-12:30				D Zhong Is there a collective hydration shell for a protein?		
12:30-1:30				Lunch Break (12:30 – 2:00PM		
1:30-2:00			P Rossky	catered)	D Matyushov	
2:00-2:15			The intrinsic complexity of biological interfaces	M McCullagh IS-SPA: A Bottom-up Approach to	Many Faces of the Protein-Water Interface: From Wetting of Active Sites to Protein Mobility	
2:15-2:45			A Willard	Implicit Solvation	K Kubarych	
2:45-3:00			The statistical mechanics of hydrogen bonding at the liquid water interface	S Kast From macroscopic to local	Two-dimensional infrared and simulation studies of crowded hydration dynamics	
3:00-3:30			Break	solvation thermodynamics	Break	
3:30-4:00			A Patel	Break	P Petersen	
4:00-4:15		Free Time	Characterizing Protein Hydration to Inform its Interactions	A Mukherjee Connecting entropy and diffusion	Using chirality to probe biomolecular solvation	
4:15-4:45			E Duboue-Dijon DNA hydration dynamics:	Connecting entropy and aiffusion of supercooled water in bulk, around ions and biomolecules	J Smith	
4:45-5:00			molecular origin of the heterogeneity and sequence dependence Break M Heyden Solvation Contributions to Thermodynamic Driving Forces		Solvation for Bioenergy	
5:00-5:30				Break		
5:30-6:15	_		A Cembran Water response to mechanical unfolding of dystrophin's spectrin repeats	Town Talk at Telluride Conference Center in Mountain Village	S Han Surface water diffusivity to capture effective surface hydrophil-phob-icity	
6:15-7:00	Registration			(6:30-7:30 PM)	TSRC Picnic (Open to	
7:00-7:45	(6-8 PM at the Phoenix		Workshop Dinner		family/friends)	
7:45-8:30	Bean)		(Floradora)		•	