

TSRC Vibrational Dynamics, July 31 - Aug 4, 2017

Organizers: Kevin Kubarych and Karin Hauser

TSRC Hosts: Mark Kozak and Kristen Redd, 970-708-4426

Venue: Telluride Intermediate School (725 W Colorado Ave)

Monday, July 31 2017

7:30 AM **Breakfast at TSRC meeting site**

8:00 AM Opening Remarks

8:05 AM Kevin Kubarych, University of Michigan

Interfacial hydration dynamics: polymers and micelles

8:50 AM Min Cho, Seoul National University

Water structure and dynamics in crowding environments

9:35 AM Jim Skinner, University of Wisconsin - Madison

Supercooled water, IR spectra, and the liquid-liquid critical point

10:20 AM **Coffee Break**

10:50 AM Ellen Backus, Max Planck Institute Mainz

Structure and dynamics of water at the calcium fluoride surface

11:35 AM Carloz Baiz, University of Texas at Austin

Investigating Lipid-Water Interfaces with Vibrational Spectroscopy

12:20 PM **Lunch at TSRC meeting site**

1:30 PM David Leitner, University of Nevada, Reno

Vibrational Energy Dynamics at Molecular Interfaces

2:15 PM Igor Rubstov, Tulane University, New Orleans

Vibrational energy transport in molecules in bulk and at an interface

3:00 PM **Coffee Break**

3:30 PM Yoshitaka Tanimura, Kyoto University

Probing photoisomerization processes by means of multi-dimensional electronic spectroscopy

4:15 PM Tahei Tahara, Riken

Tracking structural dynamics of complex molecules by femtosecond time-domain Raman spectroscopy

Tuesday, Aug 1 2017

- 1:30 PM Markus Meuwly, University of Basel
Accurate Force Fields for Vibrational Spectroscopy in the Gas- and Condensed Phase
- 2:15 PM Mark Johnson, Yale University
Spectroscopic manifestations of high amplitude proton motion in H-bonded networks and biopolymers with cold ion vibrational predissociation
- 3:00 PM **Coffee Break**
- 3:30 PM Ehud Pines, Ben Gurion University of the Negev
Primary events in proton transfer and proton solvation revealed by vibrational spectroscopy
- 4:15 PM Benjamin Fingerhut, Max Born Institute Berlin
Large-amplitude transfer motion of hydrated excess protons mapped by ultrafast2D IR spectroscopy
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- 6:00 PM **TSRC Town Talk at the Conference Center in Mountain Village**
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Wednesday, Aug 2 2017

- 1:30 PM Megan Thielges, Indiana University Bloomington
Dynamics of Protein Molecular Recognition
- 2:15 PM Brian Dyer, Emory University Atlanta
Ultrafast Energy Flow in Proteins
- 3:00 PM **Coffee Break**
- 3:30 PM Neil Hunt, University of Glasgow
*The effect of base sequence, length and secondary structure
on the vibrational dynamics of DNA*
- 4:15 PM Matthew Tucker, University of Nevada, Reno
*Vibrational Coupling versus Energy Transfer of Site-Specific
Probe Pairs for 2D IR Studies of Biomolecular Dynamics*

6:00 PM **TSRC Picnic @ Telluride Intermediate School**

Thursday, Aug 3 2017

- 7:30 AM **Breakfast at TSRC meeting site**
- 8:00 AM Wei Xiong, University of California San Diego
Capturing ultrafast conformational exchanges of organometallic catalytic compound
- 8:45 AM Anthony Vlcek, J. Heyrovsky Institute, Prague & Queen Mary, London
Vibrational dynamics in different electronic and redox states
- 9:30 AM Etienne Garand, University of Wisconsin - Madison
Constructing and deconstructing complexity in ionic clusters
- 10:15 AM **Coffee Break**
- 10:45 AM Hajime Torii, Shizuoka University
Electrostatics and intermolecular electronic motions determining the vibrational spectroscopic features of hydrogen-bonded systems
- 11:30 AM Keisuke Tominaga, Kobe University
Dynamics of water, aqueous solutions, and proteins studied by 2DIR and broadband dielectric spectroscopy

6:00 PM Workshop Dinner, TBD

Friday, Aug 4 2017

- 7:30 AM **Breakfast at TSRC meeting site**
- 8:00 AM Daniel Kuroda, Louisiana State University
Highly coupled vibrational modes to study the solvation structure and motions of ions in organic solvents
- 8:45 AM Daniel Moberg, University of California, San Diego
Spectroscopic Studies of Ice Systems Using a Many-Body Potential
- 9:30 AM Gerhard Stock, University of Freiburg
Time-resolved description of protein allosteric communication
- 10:15 AM **Coffee Break**
- 10:45 AM Andrei Tokmakoff, University of Chicago
The vibrational spectroscopy and dynamics of water and aqueous protons
- 11:30 AM Karin Hauser, University of Konstanz
Effects of membrane properties on protonation dynamics of photoreceptors studied with stepscan FTIR
- 12:15 PM Closing Remarks
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