Meeting Schedule for Quantum Dynamics and Spectroscopy in Condensed-Phase Materials and Bio-Systems

06/24/2019 - 06/29/2019

Monday 24 June

Meet-and-greet with badge pick-up 6-7 pm Phoenix Bean 221 W Colorado Ave.

Tuesday 25 June

7:45-8:15 Breakfast served at Telluride Intermediate School

8:15-8:25 Welcoming remarks

Host: Antonietta De Sio

8:25-8:50 Ara Apkarian *Closing one loop and opening another: experiment and theory in quantum many-body dynamics*

8:50-9:00 Discussion

9:00-9:25 David Picconi *Efficient simulation of the photodynamics of dihalogens in solid matrices using the G-MCTDH method*

9:25-9:35 Discussion

9:35-10:00 Young Min-Rhee *Correctly describing vibrational effects on excitation energy transfer: how much quantum nature do we need*

10:00-10:10 Discussion

10:10-10:35 Coffee break

Host: Jérémie Leonard

10:35-11:00 Jessica Anna *Photoinduced processes in Photosystem I and model light harvesting systems*

11:00-11:10 Discussion

11:10-11:35 Biman Bagchi *Quantum stochastic Liouville equation approach to quantum diffusion and coherences in extended dissipative systems*

11:35-11:45 Discussion

11:45-12:10 Minhaeng Cho *Interferometric quantum spectroscopy with undetected photons*

12:10-12:20 Discussion

12:20-1:30 Lunch served at workshop site

Host: Hao Li

1:30-1:55 David Jonas *Femtosecond nonadiabatic dynamics in photosynthetic light harvesting*

1:55-2:05 Discussion

2:05-2:30 Eduardo Carnio *Coherent control of two-photon absorption via entangled photons*

2:30-2:40 Discussion

2:40-3:10 Coffee break

3:10-3:35 John Herbert *Vibronic coherence in singlet fission*

3:35-3:45 Discussion

3:45-4:10 Jochen Blumberger *Charge transport in molecular materials from non-adiabatic molecular dynamics*

4:10-4:20 Discussion

6:30 TSRC Town Talk by W.E. Moerner of Stanford University Telluride Conference Center in Mountain Village

Wednesday 26 June

7:45-8:15 Breakfast served at Telluride Intermediate School

Morning free for conversation, collaboration, and outdoor exploration

On your own for lunch

Host: David Coker

12:30-12:55 Tobias Brixner *Exciton dynamics studied with higher-order 2D and 3D spectroscopy*

12:55-1:05 Discussion

1:05-1:30 Stephen Cotton *Molecular dynamics treatment of electronically non-adiabatic processes via a symmetrical quasi-classical windowing model*

1:30-1:40 Discussion

1:40-2:05 Antonietta De Sio *Ultrafast dynamics in photovoltaic materials: from organics to perovskites*

2:05-2:15 Discussion

2:15-2:45 Coffee break

Host: Jacob Krich

2:45-3:10 Igor Schapiro *Insights Into the photochemistry of the red-green cyanobacteriochrome from QM/MM simulations*

3:10-3:20 Discussion

3:20-3:45 Jérémie Leonard *Towards mimicking the vibrationally coherent photoisomerization of Rhodopsin in synthetic molecular switches*

3:45-3:55 Discussion

3:55-4:20 Jianshu Cao *Coherent diffusion and spectra of molecular aggregates*

4:20-4:30 Discussion

4:30-4:55 Chong Fang *Tracking structural motions of functional chromophores through a conical intersection in water*

4:55-5:05 Discussion

6-8 pm BBQ picnic

Thursday 27 June

7:45-8:15 Breakfast served at Telluride Intermediate School

Morning free

12:00-1:00 Lunch at workshop site

Host: Erling Thyrhaug

1:00-1:25 Thomas Renger *Exciton theory of anisotropic circular dichroism of molecular aggregates: Refinement of the baseplate structure of green sulfur bacteria*

1:25-1:35 Discussion

1:35-2:00 Juergen Hauer *5^{th} order 2D electronic spectroscopy on a molecular trimer*

2:00-2:10 Discussion

2:10-2:35 Suggy Jang *Distance and energy dependence of resonance energy transfer - revisiting Forster's theory and its generalizations*

2:35-2:45 Discussion

2:45-3:15 Coffee break

Host: David Picconi

3:15-3:40 Sophya Garashchuk *Quantum dynamics inspired by the Bohmian trajectories*

3:40-3:50 Discussion

3:50-4:15 Wybren Jan Buma *Tracking molecular switches at work* – in silico and in spectrometer

4:15-4:25 Discussion

4:25-4:50 David Coker *First principles model Hamiltonian ensembles for light harvesting: Signatures of coherent and incoherent excitonic, vibronic and vibrational energy transfer in nonlinear 2DES signals*

4:50-5:00 Discussion

7 pm Group dinner at Floradora Restaurant 103 W Colorado Ave.

Friday 28 June

7:45-8:15 Breakfast served at Telluride Intermediate School

Early morning free

Coffee Break 10:30-11

Host: Jeff Cina

11:00-11:20 Hao Li *Probing ultrafast coherence dynamics with 2D photoexcitation spectroscopy*

11:20-11:40 Erling Thyrhaug *Generalized HR-factors for molecular aggregates*

11:40-12:00 Vitaly Rassolov TBA

12:00-1 Lunch served at workshop site

Host: Sophya Garashchuk

1:00-1:25 Jacob Krich *Efficient and fast prediction of ultrafast spectroscopies*

1:25-1:35 Discussion

1:35-2:00 Sergei Tretiak *Multiple cloning and polaritons in excited state NAMD*

2:00-2:10 Discussion

2:10-2:40 Coffee break

Host: Jessica Anna

2:40-3:05 Jeff Cina *On tracking site-to-site and interexciton electronic coherence*

3:05-3:15 Discussion

3:15-3:40 Art Bragg *Driving Dynamics on Multiple Potential Energy Surfaces: Structural and Photonic Control of Photoisomerizations in Solution*

3:40-3:50 Discussion

3:50-4:15 Kenji Ohmori *Ultrafast many-body electron dynamics in a strongly correlated ultracold Rydberg gas*

4:15-4:25 Discussion

4:25-4:50 Irene Burghardt *High-dimensional quantum dynamics of functional organic polymer materials: Coherence, confinement, and disorder*

4:50-5:00 Discussion

Saturday 29 June

7:45-8:15 Breakfast served at Telluride Intermediate School

8:30 onward: informal conversation in meeting room for those interested and available; coffee served throughout