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13. ABSTRACT *(Maximum 200 words)*

The Sixth Conference on Molecular Reaction Dynamics in Condensed Matter was held Feb. 28- Mar 3 at the Hotel La Casa del Camino in Laguna Beach, CA, sponsored by AFOSR and UC Irvine, and organized by D. Dlott and A. Apkarian. There were 39 attendees, including professors, graduate students, postdoctoral fellows, technical staff members from national laboratories and a representative from AFOSR. 34 talks were presented. There were 21 invited talks (50 minutes with discussion) and 9 contributed talks (25 minutes with discussion). Lively discussion continued until the wee hours. The conference website is: http://dlottgroup.scs.uiuc.edu/moldyn/

Symposia on the following topics were presented:

1. New frontiers
2. Multidimensional spectroscopy
3. Condensed phase dynamics
4. Chemical reaction dynamics
5. Confined molecules: clusters and droplets

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2. Status of effort

The Sixth Conference on Molecular Reaction Dynamics in Condensed Matter was held Feb. 28- Mar 3 at the Hotel La Casa del Camino in Laguna Beach, CA, sponsored by AFOSR and UC Irvine, and organized by D. Dlott and A. Apkarian. There were 39 attendees, including professors, graduate students, postdoctoral fellows, technical staff members from national laboratories and a representative from AFOSR. 34 talks were presented. There were 21 invited talks (50 minutes with discussion) and 9 contributed talks (25 minutes with discussion). Lively discussion continued until the wee hours. The conference website is: http://dlottgroup.scs.uiuc.edu/moldyn/

Funding provided by AFOSR and UC Irvine was used to reimburse travel and lodging for invited speakers. Vouchers for all available funding have been submitted. The AFOSR account shows a total of $385 in unspent funds.

Symposia on the following topics were presented:

1. New frontiers
2. Multidimensional spectroscopy
3. Condensed phase dynamics
4. Chemical reaction dynamics
5. Confined molecules: clusters and droplets

A list of attendees and a summary of talks presented is attached.

SIXTH SYMPOSIUM ON MOLECULAR REACTION DYNAMICS IN CONDENSED MATTER

Laguna Beach, CA

Program Chairs: D. Dlott (Illinois) and V. A. Apkarian (Irvine)
Program sponsors: Air Force Office of Scientific Research, University of California University of California, Irvine, Office of Research and Graduate Studies

Wednesday, Feb. 28

Arrival and check in

5:00 - 7:00 pm Reception

7:30 - 9:10 pm *New frontiers I* -- Chair **Dana Dlott**

7:30	Ara Apkarian	Irvine	Massive molecular coherences from control to computation
8:20	Wilson Ho	Irvine	Single molecule dynamics on metal surfaces

Thursday, Mar. 1

7:30 – 9:00 am Breakfast

9:00 -12:15 *Multidimensional spectroscopy I* -- Chair **Ara Apkarian**

9:00	Andy Albrecht	Cornell	Multidimensional time-resolved coherent Raman six-wave mixing
9:50	Michael Fayer	Stanford	Ultrafast multidimensional vibrational echo experiments
10:40	Break		
11:00	Delmar Larsen	Berkeley	Investigation of the wavelength dependent properties of resonant third-order time domain spectroscopies
11:25	Marcos Dantus	Michigan State	Measuring electronic, vibrational and rotational coherence with femtosecond four-wave mixing techniques

12:15 -2:00 pm Lunch

2:00 –5:40 pm *Condensed phase dynamics I* -- Chair **Steven Bradforth**

2:00	Kevin Lehman	Princeton	Spectroscopy and dynamics in helium nanodroplets
2:50	Norbert Scherer	Chicago	From Femtosecond Fluctuations to Single Molecule Kinetics: Dynamics in Proteins
3:40	Break		
4:00	Ben Schwartz	UCLA	How do solvent molecules control electron transfer? Femtosecond studies of the charge-transfer-to-solvent reaction of the sodium anion
4:25	Huib Bakker	AMOLF	Femtosecond mid-infrared spectroscopy of aqueous solvation shells
5:15	Cather Simpson	Case Western Reserve U	Vibrational dynamics of metallo-porphyrins in solution

6:00 - 8:00 pm Dinner

8:00 – 10:05 pm *Chemical reaction dynamics* -- Chair **Benjamin Schwartz**

8:00	C. B. Harris	Berkeley	Femtosecond IR studies of chemical reactions in liquids
8:50	Steve Bradforth	USC	Relaxation of photoelectrons in liquid water
9:15	R. B. Gerber	Irvine	Dynamics of electronic relaxation and of charge transfer reactions in rare-gas media

Friday, Mar. 2

7:30 – 9:00 am Breakfast

9:00 -12:15 pm *Multidimensional spectroscopy II* -- Chair **Marcos Dantus**

9:00	Andrei Tokmakoff	MIT	Observing vibrational structure and dynamics through coherent 2D infrared spectroscopy
9:50	Andrei Piryatinski	Wisconsin	Simulations of three-pulse 2D IR photon echoes in lennard-jones liquids
10:15	Break		
10:35	Dana Dlott	Illinois	Three dimensional vibrational spectroscopy of vibrational energy relaxation in liquids
11:25	Shaul Mukamel	Rochester	Multidimensional coherent spectroscopies of polypeptides and chromophore aggregates

12:15 -2:00 pm Lunch

2:00 – 6:05 pm *Condensed phase dynamics II* – Chair **Andrei Tokmakoff**

2:00	Hiroshi Masuhara	Osaka	Laser-induced molecular processes and nanometer morphological dynamics in organic films
2:50	Chris Bardeen	Illinois	The roles of static structure and vibrational relaxation in exciton localization for the conjugated polymer PPV
3:15	Mark Berg	South Carolina	Transport properties of small solutes in polymer melts: Rotational dynamics from the small-molecule to polymer limit
3:40	Break		
4:00	Misha Ovchinnikov	Utah	Semi-classical calculations of linear and non-linear spectra in condensed phases
4:50	Eric Chronister	Riverside	Low frequency dynamics in molecular crystals and glasses under high pressure
5:15	John Fourkas	Boston College	Developing a microscopic picture of confined liquids

6:05 - 8:00 pm Dinner

8:00 – 9:40 pm *New Frontiers II* – Chair **Chris Bardeen**

8:00	Roger Miller	North Carolina	The dynamics and growth of metastable species in helium nanodroplets
8:50	Frans DeSchryver	Leuven	Time and space resolved spectroscopy of dendritic structures from ensembles to single molecules

Saturday, Mar. 3

7:30 – 9:00 am Breakfast

9:00 - 12:25 *Confined molecules: clusters and droplets* – Chair **Dana Dlott**

9:00	Stefan Hell	MPI Göttingen	Ultrafast dynamics microscopy
9:50	Jussi Eloranta	UCI	Bubble States in Liquid Helium
10:15	Break		
10:35	Andrej Vilesov	USC	Spectroscopy in superfluid helium droplets
11:25	Carl Lineberger	Colorado	Solvent driven electron transfer in size-selected clusters: Asymmetry counts!

12:15 *Conference ends*

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