

THE 2011 DYNAMICS OF MOLECULAR COLLISIONS MEETING

Table 1: The history of the Conference on the Dynamics of Molecular Collisions

<i>Date</i>	<i>Site</i>	<i>Conference Chair</i>
1965	New Hampton, New Hampshire	John Fenn (Yale University)
1968	Andover, New Hampshire	John C. Polanyi (University of Toronto)
1970	Oak Ridge, Tennessee	E.F. Green (Brown University)
1972	Plymouth, New Hampshire	Sheldon Datz (Oak Ridge National Laboratory)
1974	Santa Cruz, California	James L. Kinsey (Massachusetts Institute of Technology)
1976	Plymouth, New Hampshire	Bruce E. Mahan (University of California)
1978	Pacific Grove, California	Yuan T. Lee (University of California)
1981	Plymouth, New Hampshire	R. James Cross (Yale University)
1983	Gull Lake, Minnesota	W. Ronald Gentry (University of Minnesota)
1985	Snowbird, Utah	Donald G. Truhlar (University of Minnesota)
1987	Wheeling, West Virginia	Paul Dagdigan (The Johns Hopkins University)
1989	Pacific Grove, California	William H. Miller (University of California)
1991	Lake George, New York	James M. Farrar (University of Rochester)
1993	Helen, Georgia	Joel M. Bowman, (Emory University)
1995	Pacific Grove, California	Daniel Neumark (University of California, Berkeley)
1997	Gull Lake, Minnesota	George Schatz (Northwestern University)
1999	Lake Harmony, Pennsylvania	James Valentini (Columbia University)
2001	Copper Mountain, Colorado	James T. Muckerman (Brookhaven National Laboratory)
2003	Tahoe City, California	Laurie J. Butler (University of Chicago)
2005	Pacific Grove, California	Albert Wagner (Argonne National Laboratory)
2007	Sante Fe, New Mexico	David Chandler (Sandia National Laboratory)
2009	Snowbird, Utah	Anne McCoy (Ohio State University)
2011	Snowbird, Utah	David Nesbitt (JILA/University of Colorado)

B. The 2011 DMC Conference and Format

The Dynamics of Molecular Collisions Conference focuses on all aspects of molecular collisions--experimental and theoretical studies of elastic, inelastic, and reactive encounters involving atoms, molecules, ions, clusters, and surfaces--as well as half collisions--photodissociation, photo-induced reaction, and photodesorption. The scientific program for the meeting in 2011 included exciting advances in both the core and multidisciplinary forefronts of

the study of molecular collision processes. Following the format of the 2009 meeting, we also invited sessions in special topics that involve interfacial dynamics, novel emerging spectroscopies, chemical dynamics in atmospheric, combustion and interstellar environments, as well as a session devoted to theoretical and experimental advances in ultracold molecular samples.

Researchers working inside and outside the traditional core topics of the meeting are encouraged to join the conference. We invite contributions of any work that seeks to understand how inter- and intra-molecular forces determine the dynamics of the phenomena under study. In addition to the invited oral sessions and contributed poster sessions, the scientific program included a formal session consisting of five contributed talks selected from the submitted poster abstracts.

The DMC has distinguished itself by having the Herschbach Medal Symposium as part of the meeting format. This tradition of the Herschbach Medal was first started in the 2007 meeting chaired by David Chandler, based on a generous donation of funds and artwork design by Professor Dudley Herschbach himself. There are two such awards made, one for experimental and one for theoretical contributions to the field of Molecular Collision Dynamics, broadly defined. The symposium is always held on the last night of the meeting and has the awardees are asked to deliver an invited lecture on their work. The 2011 Herschbach Medal was dedicated to the contributions of two long standing leaders in Chemical Physics, Professor Yuan T. Lee and Professor George Schatz.

Professor Lee's research has been based on the development and use of advanced chemical kinetics and molecular beams to investigate and manipulate the behavior of fundamental chemical reactions. Lee's work has been recognized by many awards, including the Nobel Prize for Chemistry in 1986, as well as Sloan Fellow, Dreyfus Scholar, Fellowship in the American Academy of Arts and Sciences, Fellowship in the American Physical Society, Guggenheim Fellow, Member National Academy of Sciences, Member Academia Sinica, E.O. Lawrence Award, Miller Professor, Berkeley, Fairchild Distinguished Scholar, Harrison Howe Award, Peter Debye Award, and the National Medal of Science. Lee also has served as the President of the Academia Sinica in Taiwan (ROC).

Professor Schatz's research group is interested in using theory and computation to describe physical phenomena in a broad range of applications relevant to chemistry, physics, biology and engineering. Among the types of applications that we interested are: optical properties of nanoparticles and nanoparticle assemblies; using theory to model polymer properties; DNA structure, thermodynamics and dynamics; modeling self assembly and nanopatterning; and gas phase reaction dynamics. Among his many awards and distinctions have been appointment as an Alfred P. Sloan Research Fellow, Camille and Henry Dreyfus Teacher-Scholar, the Fresenius Award, Fellow of the American Physical Society, the Max Planck Research Award, Fellowship in the American Association for the Advancement of Science, and election to the International Academy of Quantum Molecular Sciences and the American Academy of Arts and Sciences. Dr Schatz is also lauded for his highly successful work as Editor for the Journal of Physical Chemistry.

C. The 2011 DMC meeting

The programs planned for the 2011 Dynamics of Molecular Collisions are summarized below. To help promote the work of “up and coming” scientists, we will also add one contributed talk to each session (total of 8 talks) selected from the poster abstracts submitted by students, postdoctorals and younger scientists in the field.

Poster Presentations (4 sessions) Monday, Tuesday, Wednesday and Thursday
Session Chairs: Hua Guo (New Mexico) and Arthur Suits (Wayne State)

Bimolecular Collisions (2 sessions)

Session Chair: Hanna Riesler (USC), Hua Guo (U New Mexico)

Speakers: Xueming Yang (China)
Piergorgia Casavecchia (Italy)
Millard Alexander (Maryland)
Marsha Lester (U Penn)
Joel Bowman (Emory)
Kopin Liu (Taiwan)
Mark Brouard (UK)

Photodissociation and Unimolecular Reactions

Session Chair: Arthur Suits (Wayne State)

Speakers: Laurie Butler (Chicago)
Jinsong Zhang (UC Riverside)
Lydmilla Slipchenko (Purdue)
Tucker Carrington (Canada)

Interfaces

Session Chair: Stephen Sibener (Chicago)

Speakers: Rich Saykally (Berkeley)
Gil Nathanson (Wisconsin)
Bruce Kay (PNNL)
Heather Allen (Ohio State)

Clusters

Session Chair: Mike Duncan (Georgia)

Speakers: Mark Johnson (Yale)
Mathias Weber (Colorado)
Ad van der Avoird (Netherlands)
Anne McCoy (Ohio State)

Ultracold Collisions

Session Chair: Heather Lewandowski (JILA)

Speakers: Gary Douberly (Georgia)
Gerard Meijer (Germany)
John Bohn (Colorado)

Novel Spectroscopies

Session Chair: David Chandler (Sandia)

Speakers: Brooks Pate (Virginia)
 Sharon Hammes-Schiffer (Penn State)
 Greg Hall (Brookhaven)

Atmospheric, Combustion and Interstellar Chemistry

Session Chair: John Maier (Switzerland)

Speakers: Larry Harding (Argonne)
 Veronica Vaida (Colorado)
 Terry Miller (Ohio State University)
 John Stanton (Texas)

Hershbach Medal Award Symposium

Session Chair: Dudley Herschbach (Harvard)

Awardees and Speakers:
 Yuan T. Lee (Academia Sinica)
 George Schatz (Northwestern)

II. Requested Support and Budget Summary

We requested \$10,000 from DOE in support of this meeting. The money was distributed widely among the student and post doctoral fellows and some used to attract the very best scientists in the field. The organizers were committed to encouraging women and minorities as well as encourage the field of Chemical Physics in scientifically developing countries. For example, it has been a tradition of the DMC meeting to offer of order 40 scholarships for students and postdocs to defray registration and travel costs. The benefits of increased graduate student and post doctoral attendance at the meeting cannot be over emphasized. First, these young scientists have the opportunity to present their work by means of the poster session and to a gathering of experts in their field. Secondly the informal Gordon Conference format and the limited size of the meeting allows student and young postdocs to meet and interact directly with experts in their area, to network with their peers at other institutions and become aware of eventual career opportunities. Graduate students and post doctoral fellows are the life blood of our field. Support of their attendance at this and other similar meetings will ensure a continued flow of young talent into many areas of research represented by the DMC meeting and important to DOE.