

ISMB2015



# XXVI International Symposium on Molecular Beams Segovia, 28 June-3 July 2015

## Programme

### Sunday, June 28, 2015

17:00-21:00 Registration at conference desk at **Parador de Segovia**, Carretera de Valladolid s/n, Segovia

19:00 Reception at **Parador de Segovia**

*Conference venue:*

**Parador de Segovia**

Carretera de Valladolid, s/n

40003 Segovia

### Monday, June 29, 2015

08:45-9:00 Welcome, Introductory remarks, Announcements

#### **SESSION 1: REACTION DYNAMICS AND PHOTODISSOCIATION I**

09:00-9:35 **Mark Brouard** (Oxford University, UK)

*The stereodynamics of inelastic scattering of NO(X) by the rare gases*

09:35-10:10 **Antonio Aguilar** (Universitat de Barcelona, Spain)

*Ion-molecule collisions: Crossed-beams and guided-ion-beams experiments and computational studies of reactive processes*

- 10:10-10:40 **Ken McKendrick** (Heriot Watt University, UK)  
*Reactive-atom scattering at liquid surfaces: collision dynamics as a probe of surface structure*
- 10:40-11:15 *Coffee break*
- 11:15-11:50 **Bill Hase** (Texas Tech University, Texas, USA)  
*Chemical dynamics simulations of the  $\text{OH}(\text{H}_2\text{O})_n + \text{CH}_3\text{I}$  reaction. Comparisons with experiment*
- 11:50-12:20 **Chung-Hsin Yang** (Academia Sinica, Taiwan)  
*Steric effect on the  $\text{F} + \text{aligned-CHD}_3(\nu_1=1)$  reaction*
- 12:20-12:45 **Hot Topic**  
**Wybren Jan Buma** (University of Amsterdam, The Netherlands)  
*Fast photodynamics probed by slow spectroscopy: scanning the excited state potential energy surfaces of azobenzene*
- 13:00-15:00 *Lunch*

## SESSION 2: FEMTOSECOND DYNAMICS AND STRONG FIELDS

- 15:00-15:35 **Albert Stolow** (University of Ottawa, Canada)  
*The Dynamophore: Localization of Excited State Dynamics in Nonadiabatic Processes*
- 15:35-16:10 **Regina Vivie-Riedle** (Ludwig-Maximilians-Universität München, Germany)  
*Simulating the control of molecular reactions via modulated light fields: From gas phase to solution*
- 16:10-16:45 *Coffee break*
- 16:45-17:15 **Vasilios Stavros** (University of Warwick, UK)  
*Bridging the gap between gas- and solution-phase photochemistry*
- 17:15-17:45 **Jan Verlet** (Durham University, UK)  
*Ultrafast dynamics of anions probed by frequency-, angle-, and time-resolved photoelectron spectroscopy*
- 17:45-18:10 **Hot Topic**  
**Susanne Ullrich** (University of Georgia, USA)  
*Photoreactive properties of a eumelanin building block: Ultrafast excited state relaxation dynamics in indole*
- 18:15-20:00 *Poster session*

**Tuesday, June 30, 2015**

**SESSION 3: COLD MOLECULES**

- 09:00-09:35 **Edvardas Narevicius** (Weizmann Institute of Science, Israel)  
*Probing long-range forces of a molecular quantum rotor in cold reactions*
- 09:35-10:10 **Bas van de Meerakker** (Radboud Universiteit, The Netherlands)  
*Molecular collisions coming into focus*
- 10:10-10:40 **Astrid Bergeat** (Université Bordeaux, France)  
*Crossed-beam inelastic scattering experiments at low collision energies*
- 10:40-11:15 *Coffee break*
- 11:15-11:50 **Manuel Lara** (Universidad Autónoma de Madrid, Spain)  
*Cold and ultracold dynamics of the barrierless  $D^+ + H_2$  reaction: Quantum reactive calculations for  $\sim R^{-4}$  long range interaction potentials*
- 11:50-12:20 **Andreas Osterwalder** (Ecole Polytechnique Fédérale de Laussane, Switzerland)  
*Experiments with a merged beam machine*
- 12:20-12:45 **Hot Topic**  
**Marta I. Hernández** (CSIC, Madrid, Spain)  
*Broadening of  $H_2O$  rotational lines by collisions with He atoms at low temperature*
- 13:00-15:00 *Lunch*

**SESSION 4: REACTION DYNAMICS AND PHOTODISSOCIATION II**

- 15:00-15:35 **David Parker** (Radboud Universiteit, The Netherlands)  
*Polarized CO products from scattering and photodissociation*
- 15:35-16:10 **Einar Uggerud** (Universitetet Oslo, Norway)  
*Elementary chemical reactions of  $CO_2$  studied by mass spectrometry: Biological fixation and reactions with water*
- 16:10-16:45 *Coffee break*
- 16:45-17:15 **Scott Kable** (University of New South Wales, Australia)  
*Probing roaming dynamics in  $H_2CO$  by probing the  $H_2$  fragment by ion imaging*
- 17:15-17:45 **King-Chuen Lin** (Academia Sinica, Taiwan)  
*Roaming mechanism in molecular photodissociation*
- 17:45-18:10 **Hot Topic**  
**Eckart Wrede** (Durham University, UK)  
*Photostop: Towards magnetic trapping of cold SH/SD radicals produced by photodissociation*
- 18:15-20:00 *Poster session*

### Wednesday, July 1, 2015

#### SESSION 5: EXPERIMENTAL AND COMPUTATIONAL SURFACE CHEMISTRY

- 09:00-09:35 **Alec Wodke** (Max Planck Institute Biophysical Chemistry Göttingen, Germany)  
*The dynamics of molecular interactions and chemical reactions at metal surfaces: Testing the foundations of theory*
- 09:35-10:10 **Rainer Beck** (Ecole Polytechnique Fédérale de Laussane, Switzerland)  
*Exploring gas/surface reaction dynamics via quantum state resolved molecular beam experiments*
- 10:10-10:40 **Daniel Farías** (Universidad Autónoma de Madrid, Spain)  
*Epitaxial graphene: the ultimate mirror for scanning neutral Helium microscopy?*
- 10:40-11:15 *Coffee break*
- 11:15-11:50 **Hua Guo** (University of New Mexico, USA)  
*Mode specificity and bond selectivity in polyatomic dissociative adsorption on metal surfaces*
- 11:50-12:20 **Maite Alducin** (Centro de Física de Materiales, San Sebastian, Spain)  
*Controlling the adsorption and reactive properties of molecules on surfaces*
- 12:20-12:45 **Hot Topic**  
**Theofanis N. Kitsopoulos** (Universität Göttingen, Germany)  
*Imaging molecular beam scattering from surfaces*
- 13:00-15:00 *Lunch*
- Afternoon *Excursion to Segovia*

### Thursday, July 2, 2015

#### SESSION 6: CLUSTERS, HELIUM DROPLETS, BIOMOLECULES

- 09:00-09:35 **Dan Neumark** (University of California Berkeley, USA)  
*Time-resolved radiation chemistry: interaction of excess electrons with nucleic acid constituents in clusters and in aqueous solution*
- 09:35-10:10 **Michal Farnik** (Academy of Sciences, Prague, Czech Republik)  
*Water clusters in atmosphere and biophysics: A complex CLUster Beam (CLUB) apparatus*
- 10:10-10:40 **Oriol Vendrell** (DESY Hamburg, Germany)  
*Ultrafast nuclear and electronic dynamics after photo-ionization of water clusters*
- 10:40-11:15 *Coffee break*

- 11:15-11:50 **Alberto Lesarri** (Universidad de Valladolid, Spain)  
*Microwave spectroscopy of neutral molecular clusters*
- 11:50-12:20 **Mattanjah de Vries** (University of California Santa Barbara, USA)  
*Excited state dynamics of isolated nucleobases*
- 12:20-12:45 **Hot Topic**  
**José A. Fernández** (Universidad del País Vasco, Leioa, Spain)  
*Exploring the aggregation preferences of DNA bases using electronic spectroscopy in molecular beams*
- 13:00-15:00 *Lunch*  
**SESSION 7: HONORARY SESSION**
- 16:00-17:00 **Piero Casavecchia** (Università degli Studi di Perugia, Italy)  
*Crossed molecular beam studies of multichannel nonadiabatic reactions*
- 17:00-17:30 *Coffee break*
- 17:30-18:30 **Mike Ashfold** (University of Bristol, UK)  
*Molecular photofragmentation dynamics in the gas and condensed phase: similarities and differences*
- 20:00 *Conference dinner*

**Friday, July 3, 2015**

**SESSION 8: LIQUID JETS, AEROSOLS, SOLVATION EFFECTS**

- 09:00-09:35 **Ruth Signorell** (ETH, Zurich, Switzerland)  
*Photoemission of clusters and aerosol particles*
- 09:35-10:10 **Stephen Bradford** (University of Southern California, USA)  
*Photoelectron processes in liquid water: scattering, ionization and new methods for probing elementary reactivity*
- 10:10-10:40 **Miguel González** (Universitat de Barcelona, Spain)  
*Dynamics of physicochemical processes involving atoms, molecules and superfluid helium nanodroplets*
- 10:40-11:15 *Coffee break*
- 11:15-11:50 **José María Fernández** (Instituto de Estructura de la Materia, CSIC, Spain)  
*Experiments on undercooled liquid microjets of H<sub>2</sub>, D<sub>2</sub> and their mixtures with Ne*
- 11:50-12:20 **Toshinori Suzuki** (Kyoto University, Japan)  
*Time and angle-resolved photoelectron spectroscopy of aqueous solutions*

- 12:20-12:45 **Hot Topic**  
**Anouk M. Rijs** (Radboud University, Nijmegen, The Netherlands)  
*Hydrogen bonds and backbone vibrations probed by conformer selective far-IR spectroscopy*
- 12:45-13:00 *Concluding remarks*
- 13:00-15:00 *Lunch*
- 15:00 *End of Conference*