

Leopoldina Symposium

«Spectroscopy and Molecular Dynamics at the Limit»

ETH Zürich, Hönggerberg Campus, September 11–13, 2013

Programme

Tuesday, September 10, 2013

18:00-22:00 Welcome Buffet from 18:00, FoodLab, Old Chemistry Building CAB, Universitätsstrasse 6

Wednesday, September 11, 2013

08:45 Opening: **Heitz Ph. U.**, Leopoldina
09:00-10:30 Session 1: Chair: **Jortner J.**, Tel Aviv University, Israel
09:00-09:45 **William H. Miller**, University of California, Berkeley, USA
«Semiclassical Theory of Electronically Non-Adiabatic Dynamics»
09:45-10:30 **Jürgen Stohner**, Zurich University of Applied Sciences, Switzerland
«Chiral Molecules in Molecular Spectroscopy»
10:30-11:00 Coffee break
11:00-12:30 Session 2: Chair: **Zenobi R.**, ETH Zurich, Switzerland
11:00-11:45 **Martin A. Suhm**, University of Göttingen, Germany
«Theory no longer has to wait for spectroscopy: A couple of vibrational case studies»
11:45-12:30 **Thomas L. Rizzo**, EPF Lausanne, Switzerland
«Gas-phase spectroscopy and dynamics at the limit of large molecules»
12:30-14:00 Lunch and Posters
14:00-15:30 Session 3: Chair: **Jeschke G.**, ETH Zurich, Switzerland
14:00-14:45 **John P. Maier**, University of Basle, Switzerland
«Electronic Spectra of Carbon Chains, Rings and Ions of Astrophysical Relevance»
14:45-15:30 **Peter Botschwina**, University of Göttingen, Germany
«High-resolution IR spectroscopy of anionic complexes with very strong hydrogen bonds: theory and experiment»
15:30-16:00 Coffee break
16:00-17:30 Session 4:
16:00-16:45 **Marius Lewerenz**, University of Paris Est, France
«Quantum Monte Carlo calculations on open shell and ionic species inside helium clusters»
16:45-17:30 **Roberto Marquardt**, Louis Pasteur University, Strasbourg, France
«Potential energy surfaces»
17:30-19:30 Dinner and Posters
19:30-20:15 Evening Lecture: Chair: **Ernst R. R.**, ETH Zurich, Switzerland
Theodor W. Hänsch, MPI of Quantum Optics, Garching, Germany
«Laser Spectroscopy of Hydrogen»
20:15- Posters and beer

Thursday, September 12, 2013

08:45-10:30 Session 5: Chair: **Quack M.**, ETH Zurich, Switzerland
08:45-09:00 Introduction by **Martin Quack**
09:00-09:45 **Gerald Gabrielse**, Harvard University, Cambridge, USA
«Particle Dipole Moments: Most Sensitive Tests of the Standard Model»
09:45-10:30 **Edward A. Hinds**, Imperial College, London, UK
«Testing fundamental physics with cold molecules»
10:30-11:00 Coffee break

11:00-12:30 Session 6: Chair: **Reiher M.**, ETH Zurich, Switzerland
11:00-11:45 **Wim Ubachs**, Free University Amsterdam, The Netherlands
«Search for new physics from precision measurements on the hydrogen molecule»
11:45-12:30 **Bogumił Jeziorski**, University of Warsaw, Poland
«Can we see QED effects in molecular spectra and structure?»
12:30-14:00 Lunch and Posters
14:00-15:30 Session 7: Chair: **Nikitin E. E.**, Technion, Haifa, Israel
14:00-14:45 **Robert Berger**, TU Darmstadt, Germany
«Chirality in the electron cloud»
14:45-15:30 **Jun Ye**, NIST, Boulder, USA
«Realizing exotic quantum matter with polar molecules»
15:30-16:00 Coffee break
16:00-17:30 Session 8: Chair: **Märk T.**, University of Innsbruck, Austria
16:00-16:45 **Stefan Willitsch**, University of Basle, Switzerland
«Chemistry with cold ions»
16:45-17:30 **Hans Jakob Wörner**, ETH Zurich, Switzerland
«Electronic dynamics of molecules probed by high-harmonic spectroscopy»
17:45 Departure for Laufen Castle
18:30- Conference Dinner

Friday, September 13, 2013

09:00-10:30 Session 9: Chair: **Klemperer W.**, Harvard University, Cambridge, USA
09:00-09:45 **Richard N. Zare**, Stanford University, USA
«Optical Preparation of Molecules in Selected Quantum States at the Limit»
09:45-10:30 **Samuel Leutwyler**, University of Berne, Switzerland
«UV Spectra and Nonradiative Relaxation of Excited Cytosines: From Picoseconds to Microseconds»
10:30-11:00 Coffee break
11:00-12:45 Session 10: Chair: **van den Bergh H.**, EPF Lausanne, Switzerland
11:00-11:15 Introduction by **Hubert van den Bergh**
11:15-12:00 **Katharina Al-Shamery**, Carl v. Ossietzky University Oldenburg, Germany
«Elementary processes at nanostructured (photo)catalysts»
12:00-12:45 **Tucker Carrington**, Queen's University, Kingston, Canada
«Using an Eckart frame and contracted basis functions to compute rovibrational levels of methane and refine a methane potential energy surface»
12:45-14:15 Lunch and Posters
14:15-16:15 Session 11: Chair: **Thiel W.**, MPI Mühlheim, Germany
14:15-14:30 Introduction by **Walther Thiel**
14:30-15:15 **Ruth Signorell**, ETH Zurich, Switzerland
«Concerted Motions in Ultrafine Aerosol Particles»
15:15-16:00 **Jürgen Troe**, University of Göttingen, Germany
«From kinetics to long-range potentials»
16:00-16:15 Concluding Remarks