



ESF Research Conferences

A Programme of the European Science Foundation

**Final
Programme**

ESF-FWF Conference in Partnership with LFUI

Biomolecules

From Gas Phase Properties to Reactions relevant in Living Cells

Universitätszentrum Obergurgl (Oetz Valley, near Innsbruck) • Austria • 24-29 June 2006

Chairs: Nigel J. Mason • The Open University, Milton Keynes, UK
& Eugen Illenberger • Freie Universität Berlin, DE

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Saturday 24 June	16.00 onwards	Registration at ESF-RC desk		
	20.00	Dinner		
	21.00	Welcome Drink		
Sunday 25 June	09.00-10.00	Conference Opening Chair: Tilmann Märk • University of Innsbruck, AT		
	10.00-11.00	Plenary Lecture Robert Huber • MPI für Biochimie, Martinsried, DE (Nobel Laureate 1988) Chair: Nigel J. Mason • The Open University, UK	<i>Protein structures, innovations for science and medicine</i>	
	11.00-11.30	Coffee break		
	Session 1 • Biomolecular Structure and Spectroscopy I Chair: Eugen Illenberger • Freie Universität Berlin, DE			
	11.30-12.00	Timothy Zwier • Purdue University, US	<i>Laser probes of isomerisation in flexible biomolecules and complexes: valley-to-valley searches for molecular scale mountain passes</i>	
	12.00-12.30	Karl Kleiner • Universität Düsseldorf, DE	<i>Excited states of biomolecules</i>	
	12.30-13.00	Hanspeter Helm • Universität Freiburg, DE	<i>Terahertz spectroscopy of biomolecules</i>	
	13.00	Lunch		
	Session 2 • Biomolecular Sources and Novel Techniques Chair: Lars H. Andersen • University of Aarhus, DK			
	15.00-15.30	Gert von Helden • Fritz-Haber-Institut der MPG, Berlin, DE	<i>Probing gas-phase biomolecules by IR spectroscopy</i>	
	15.30-16.00	Bernhard Brutschy • Universität Frankfurt/Main, DE	<i>Detection of biomolecules from liquid droplets</i>	
	16.00-16.30	Oddur Ingólfsson • University of Iceland, Reykjavik, IS	<i>MALDI with biomolecules</i>	
	16.30-17.00	Klaus Dreisewerd • Universität Münster, DE	<i>MALDI: fundamentals and major applications</i>	
	17.00-17.30	Coffee break		
	Short oral presentations Chair: Jean-Pierre Schermann • Université Paris Nord, FR			
	17.30-17.50	Lavina Cornelia Snoek • Oxford University, UK	<i>Molecular recognition in the gas phase; pi-bonding in carbohydrate-aromatic interactions</i>	
	17.50-18.10	Nick Polfer • FOM, Nieuwegein, NL	<i>Gas phase reactions of biomolecules probed by infrared spectroscopy</i>	
	18.10-18.30	Valérie Gabelica • Liège University, BE	<i>Electron detachment and subsequent fragmentation of multiply charged DNA ions under UV-visible irradiation</i>	
	19.30	Dinner		
	21.00	Poster session 1		

Monday 26 June	Session 3 • Collisions with Biomolecules		
	Chair: Francesco Gianturco • Università La Sapienza, Rome, IT		
	09.00-09.30	Léon Sanche • Université de Sherbrooke, CA	<i>Electron damage in DNA</i>
	09.30-10.00	Tilmann D. Märk • Universität Innsbruck, AT	<i>Electron attachment to biomolecules</i>
	10.00-10.30	Coffee break	
	10.30-11.00	Thomas Schlathöler • Groningen University, NL	<i>Ion interactions with Watson Crick pairs</i>
	11.00-11.30	Michael A. Huels • Université de Sherbrooke, CA	<i>Ion collisions with biomolecules</i>
	11.30-12.00	Robert Abouaf • Université Paris-Sud, FR	<i>Electron spectroscopy of biomolecules</i>
	12.00-12.30	E. Krishnakumar • Tata Institute Mumbai, IN	<i>Site selective bond cleavage in organic molecules</i>
	12.30	Lunch	
	Session 4 • Electron Interactions with Biomolecules I		
	Chair: E. Krishnakumar • Tata Institute of Fundamental Research, Mumbai, IN		
	15.30-16.00	Francesco A. Gianturco • Università di Roma, IT	<i>Electron and positron interactions with biomolecules</i>
	16.00-16.30	Jimena Gorfinkiel • The Open University, UK	<i>Theoretical studies of electron interactions with biologically relevant molecules.</i>
	16.30-17.00	Coffee break	
	17.00-17.30	Jack Simons • University of Utah, US	<i>Theoretical studies of mechanisms for low energy electron damage to DNA</i>
17.30-18.00	Bernd Giese • University of Basel, CH	<i>Electron transfer in DNA and peptides</i>	
Short oral presentations			
Chair: Jack Simons • University of Utah, US			
18.00-18.20	Ilko Bald • Freie Universität Berlin, DE	<i>Dissociative electron attachment to DNA/RNA building blocks</i>	
18.20-18.40	Sylwia Ptasinska • Sherbrooke University, CA	<i>Electron irradiation of biocomplexes</i>	
19.30	Dinner		
21.00	Poster session 2		
Tuesday 27 June	Session 5 • Biomolecular Structure and Spectroscopy II		
	Chair: Hanspeter Helm • University of Freiberg, DE		
	09.00-09.30	Pavel Hobza • Academy of Sciences Praha, CZ	<i>Structure, energetics and dynamics of DNA base pairs and amino acid pairs</i>
	09.30-10.00	Neil Macleod • University of Oxford, UK	<i>Conformational landscapes of neutral and protonated biomolecules in the gas phase and in solution</i>
	10.00-10.30	Coffee break	
	10.30-11.00	Roman Zubarev • University of Uppsala, SE	<i>Mass Spectrometry of biomolecules</i>
	11.00-11.30	Rainer Weinkauff • Heinrich-Heine-U., Düsseldorf, DE	<i>Laser spectroscopy of peptides</i>
	11.30-12.00	Lars H. Andersen • University of Aarhus, DK	<i>Probing proteins by photo-absorption studies at an electrostatic storage ring</i>
	12.00-12.30	Tom Rizzo • EPFL, Lausanne, CH	<i>IR and UV photofragment spectroscopy of cold, biomolecular ions</i>
12.30	Lunch		

Wednesday 28 June	Session 6 • Electron Interactions with Biomolecules II Chair: Robert Abouaf • Université Paris-Sud, Orsay, FR		
	15.30-16.00	Andrzej L. Sokalski • Polish Acad. of Sc., PL	<i>Hydrogen bonds - a key for photostability of biomolecular systems</i>
	16.00-16.30	Ron Naaman • Weizmann Institute, Rehovot, IL	<i>Electron transmission through monolayers of short DNA oligomers</i>
	16.30-17.00	Tihomir Solomun • Freie Universität Berlin, DE	<i>Electron interactions with immobilised oligonucleotides</i>
	17.00-17.30	Coffee Break	
	Short oral presentations Chair: Thomas Schlathölter • Groningen University, NL		
	17.30-17.50	John R. Sabin • University of Florida, US	<i>Theoretical investigation of fragmentation and energy deposition cross sections for proton impact on biomolecules</i>
	17.50-18.10	Iwona Dabkowska • Gdansk University, PL	<i>Electron induced proton transfer</i>
	18.10-18.30	Karol Marek Langner • Wrocław University of Technology, PL	<i>The significance of electrostatic interactions in nucleic acid base stacking complexes</i>
	19.30	Dinner	
	21.00	Poster session 3	
	Session 7 • Biomolecular Anions Chair: Léon Sanche • University of Sherbrooke, CA		
	09.00-09.30	Thomas Schultz • MBI Berlin, DE	<i>Electronic relaxation in isolated and micro-hydrated DNA base pairs</i>
	09.30-10.00	Jens Michaelis • LMU Munich, DE	<i>Mechanism of force generation of a viral DNA packaging motor</i>
	10.00-10.30	Coffee break	
	10.30-11.00	Anne Lafosse • Université Paris-Sud, Orsay, FR	<i>Electron interactions with thin films of organic acids</i>
11.00 -11.30	Jean-Pierre Schermann • Université Paris-Nord, FR	<i>Structures of biomolecular complexes from dipole-bound anion formation</i>	
Short oral presentations Chair: John Sabin • University of Florida, US			
11.30-11.50	Nina Morgner • Goethe University, Frankfurt /Main, DE	<i>Biomolecules in liquid droplets</i>	
11.50-12.10	Linan Yang • Purdue University, US	<i>Radical reactions with oligonucleotides evaporated by laser induced acoustic desorption (LIAD) in the gas phase</i>	
12.10-12.30	Sandrine Lacombe • Paris Sud University, FR	<i>Role of radiosensitizers in hadrontherapy</i>	
12.30	Lunch		
Session 8 • New directions and New Opportunities Chair: Nigel J. Mason • The Open University, UK			
Short oral presentations Chair: Pavel Hobza • Academy of Sciences Praha, CZ			
16.00-16.20	Bogdan C. Ibanescu • Fribourg University, CH	<i>Site and selective chemistry in DEA to compounds with amino and hydroxyl groups</i>	
16.20-16.40	Martine N. Blom • FOM, Nieuwegein, NL	<i>Stepwise solvation of isolated amino acids</i>	
16.40-17.00	Marcello Coreno • CNR-IMIP, Trieste, IT	<i>Photoionisation mass spectrometry and photoemission of amino acids</i>	

	17.00-17.20	Samuel Eden • Nuclear Physics Institute Lyon, FR	<i>Proton impact ionisation of gas phase DNA bases and water molecules</i>
	17.20-17.45	Coffee break	
	17.45- 19.00	Forward Look Plenary Discussion	
	20.00	Reception followed by Conference Dinner	
Thursday 29 June	Breakfast & Departure		

Abstracts, posters and short talks:

There will be no **short talks** other than those announced on the programme.
All other abstracts are accepted as **posters**.