

Radiation Damage in Biomolecular Systems

13th - 15th June 2008, Debrecen, Hungary

Programme

Thursday 12th June 2008

15:00 - 19:00 Registration (Refreshments)

Friday 13th June 2008

09:00 - 09:30 Opening József Pálinkás, Nigel Mason, Béla Sulik

Session 1 Chair:

09:30 - 10:15 Radiation Induced Damage in Macromolecular Systems. Where do we go next? Nigel Mason (The Open University, UK)

10:20 - 11:00 *Coffee, Tea*

Session 2 Chair:

11:00 - 11:40 Fragmentation of isolated and nanosolvated biomolecular systems Bernd Huber (CIRIL, Caen, France)

11:45 - 12:15 Dynamical hierarchical methods for the irradiation of clusters and molecules in contact with environment Eric Suraud (Université Paul Sabatier, Toulouse - France)

12:20 - 13:20 *Lunch Break*

Session 3 Chair:

13:20 - 13:50 Calculation of ionization and charge transfer cross sections in collisions of multicharged ions with water molecules Luis Méndez (Departamento de Química, Universidad Autónoma de Madrid - Spain)

13:55 - 14:25 Calculated mean excitation energies of some amino acids John Sabin (University of Florida, USA)

14:30 - 15:00 Strong forward-backward asymmetry of the ion emission from H₂O fragmented by slow, highly charged ions Zoran Pešić (Forschungszentrum Dresden, Germany)

15:00 - 15:30 *Coffee, Tea*

Session 4 Chair:

15:30 - 16:00 Ion irradiation in liquid of micro-volume of cell surgery using a tapered glass capillary with end-window Yoshio Iwai (RIKEN Atomic Physics Laboratory, Wako, Japan)

16:05 - 16:35 Status of the mini-ring project: a compact electrostatic storage device Jérôme Bernard (University of Lyon, France)

16:40 - 17:00 Protection of Characterized Gas Phase Macromolecular Targets for Radiation Damage Studies Tony L. Merrigan (The Queen's University of Belfast, UK)

17:00 - 19:45 *Poster Session*

20:00 - Welcome Reception

Session 5 Chair:

09:00 - 09:30	Heavy Particle-induced radiation damage at the molecular level	Ronnie Hoekstra (KVI, University of Groningen, The Netherlands)
09:35 - 10:05	First-principles molecular dynamics simulations of the interaction of ion projectiles with biomolecules in realistic environments	Jorge Kohanoff (The Queen's University of Belfast, UK)
10:10 - 10:40	Nanoscale mechanisms of DNA damage initiated by energetic carbon ion beams in tissue-like media	Andrey Solov'yov (Frankfurt Institute for Advanced Studies (FIAS, Germany))

10:40 - 11:00 *Coffee, Tea*

Session 6 Chair:

11:00 - 11:30	Theoretical study of chromophore of the photoactive yellow protein	Evgeniy V Gromov (University of Heidelberg, Germany)
11:35 - 12:05	The all-trans to 13-cis isomerisation of the retinal chromophore of bacteriorhodopsin: a model study	Clemens Woywod (University of Tromsø, Norway)
12:10 - 12:40	On the puzzling deactivation mechanism of thymine after light irradiation	Leticia Gonzalez (University of Jena, Germany)

12:40 - 13:40 *Lunch Break*

Session 7 Chair:

13:40 - 14:10	Radiation damage induced by low energy electrons and positrons (0-100 eV) in water.	Gustavo Garcia (Instituto de Física Fundamental, CSIC, Madrid)
14:15 - 14:45	Cold electrons interacting with ice	David Field (University of Aarhus, Denmark)
14:50 - 15:10	DEA of clusters of amino acid in He droplets and triggering of peptide formation due to low energy electrons	Filipe Ferreira da Silva (Institute of Ion Physics and Applied Physics, Innsbruck, Austria)

15:10 - 15:30 *Coffee, Tea*

Session 8 Chair:

15:30 - 16:00	The role of flavin charge transfer transitions in biological electron transfer reactions : the case of DNA photolyase	Spiros S. Skourtis (University of Cyprus, Nicosia - Cyprus)
16:05 - 16:25	Secondary fragment formation dependency of deprotonation site on nucleosides	Helga Dögg Flosadóttir (University of Iceland, Reykjavik, Iceland)
16:30 - 16:50	Bone marrow transplantation in mice, as a tool to study the role of nuclear receptors of hematogen cells in metabolic disorders	Tamás Rózszer (University of Debrecen)
16:55 - 17:15	Role of extra chromosome 7p material and epidermal growth factor receptor overexpression in the radiation resistance of glioblastoma tumors	György Vereb (University of Debrecen)
17:30 - 19:00	Round table discussion about future RADAM programs, starting with a proposal by Gustavo Garcia Gomez-Tejedor for an international training network on biomedical uses of radiation	

20:00 - *Organ concert*

Sunday 15th June 2008

Session 9 Chair:

09:30 - 10:00	Biomimetic membranes for radiation damage studies	Maria Raposo (Universidade Nova de Lisboa, Portugal)
10:05 - 10:35	How does the conformation of a peptide govern its fragmentation after electron capture?	Anneli Ehlerding (University of Aarhus, Denmark)
10:40 - 11:10	<i>Coffee, Tea</i>	

Session 10 Chair:

11:10 - 11:30	Ion induced ionization and fragmentation of DNA related biomolecules	Sadia Bari (KVI, University of Groningen, The Netherlands)
11:35 - 11:55	Coulomb explosion and binary encounter processes in collisions between slow ions and small molecules of biological interest	Zoltan Juhász (ATOMKI, Debrecen, Hungary)
12:00 - 12:20	Radiation damage measurement in physiological environment in cervical cancer	Kornélia Szluha (University of Debrecen, Hungary)

12:30 - 13:30 *Lunch Break*

13:30 - 14:00 Closing

15:00 - 18:00 *Conference Tours in Debrecen: (by bus, which also takes you to the place of the conference dinner)*
1. *Reformed College and downtown.*

2. *Botanic Gardens and the forest area.*

19:30 - *Conference dinner*

Monday 16th June 2008

Full day excursion to Eger