

**National Academy of Sciences of Ukraine  
Bogolyubov Institute for Theoretical Physics  
Kiev Biophysical Society**

**Workshop**  
(27.04.2015 – 28.04.2015)

**MODERN PROBLEMS OF DNA PHYSICS**

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**Monday, April 27, 2015**

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine,  
14-b Metrolohichna Str., Kiev  
(Room 322)

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**13-00 Workshop Opening**  
**Anatoly G. Zagorodny**  
Director of the Bogolyubov Institute for Theoretical Physics of the NAS of Ukraine

**M.D. Frank-Kamenetskii**  
“Introductory remarks”  
*Boston University (USA)*

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**13-20 S.N. Volkov**  
“Mechanics of DNA macromolecule at the nanoscale”  
*Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*

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**13-50 A.V. Shestopalova**  
“Transitions of the sugar-phosphate DNA backbone in protein-DNA complexes”  
*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*

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**14-20 D.A. Pesina**  
“Hydration changes in formation of nucleic acid – ligand complexes according  
experimental data and computer modeling results”  
*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*

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**14-40 Coffee break**

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**15-00 G.I. Dovbeshko**  
“New optical property of DNA at the nanostructured surfaces”  
*Institute of Physics, NAS of Ukraine*

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**15-30 V.I. Vysotskii**  
“Mechanisms of radiation antagonism and hormesis at combined action of ionizing  
radiation and free radicals on DNA”  
*Taras Shevchenko National University of Kiev, Faculty of Radio Physics*

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**16-00 E.V. Dukhopelnikov, N.A. Gladkovskaya, E.G. Bereznyak**  
“Calculation of drug-DNA binding parameters from melting experiments”  
*O.Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine*

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**16-30 Coffee break**

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- 16-50 S.M. Perepelytsya**  
“Lattice-like ordering of counterions around DNA double helix”  
*Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*
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- 17-20 A. Kravets, D. Sokolova**  
“DNA methylation as conformation variety factor”  
*Institute of cell biology and genetic engineering NAS of Ukraine*
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- 17-40 P.P. Kanevska**  
“Interrelations of components in DNA deformations”  
*Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*
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- 18-00 D.V. Piatnytskyi, O.O. Zdorevsky, S.M. Perepelytsya, S.N. Volkov**  
“To understanding of the mechanisms of DNA deactivation in ion therapy of cancer cells”  
*Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*
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**18-20 Round-table**

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**Tuesday, April 28, 2015**  
Kiev House of Scientists  
45a Volodymyrska Str. Kiev  
(White Lounge)

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- 15-00 M.D. Frank-Kamenetskii**  
“New developments in the field of DNA biophysics”  
*Boston University (USA)*
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**17-00 Workshop Closing**  
**S.N. Volkov**  
Kiev Biophysical Society

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