

Russian-Japanese Conference

Chemical Physics of Molecules and Polyfunctional Materials

**October 30 - 31, 2018
Orenburg, Russian Federation**

PROGRAM



**Organized by
Orenburg State University
Hiroshima University**

Organizing Committee

Professor Letuta S.N. (co-chairman), Orenburg SU, Orenburg, Russia;

Professor Ebata T. (co-chairman), Hiroshima University, Hiroshima, Japan;

Professor Berdinsky V.L., Orenburg SU, Orenburg, Russia;

Professor Chmereva T.M., Orenburg SU, Orenburg, Russia;

Professor Inoue K., Hiroshima University, Hiroshima, Japan;

Professor Kucherenko M.G., Orenburg SU, Orenburg, Russia;

Professor Sekiya R., Hiroshima University, Hiroshima, Japan;

Professor Suzuki T., Hiroshima University, Hiroshima, Japan;

Professor Tanimoto Y., Osaka City University, Osaka, Japan;

Ass. professor Chetverikova A.G., Orenburg SU, Orenburg, Russia;

Ass. professor Dokashenko L.V., Orenburg SU, Orenburg, Russia;

Ass. professor Rusinov A.P., Orenburg SU, Orenburg, Russia.

30 October

- 10⁰⁰ – 10¹⁰** **Open Ceremony of the Russian-Japanese Conference, 170704.**
Rector of Orenburg State University
Prof. Zhanna A. Ermakova Welcome speech
- 10¹⁰ – 13⁰⁰** **Plenary session 1**
Co-chairs: *Professors Takayuki Ebata and Sergey Letuta*
- 10¹⁰ - 10⁵⁰ *Chikako Udagawa, Mai Ueno, Toshinari Hisaki, Mina Maeda, Syou Maki, Shotaro Morimoto, and Yoshifumi Tanimoto*
MAGNETIC FIELD EFFECT ON THE REDOX REACTION OF LEAD ION AND ZINC METAL IN AQUEOUS SOLUTION
- 10⁵⁰ - 11³⁰ *Michael G. Kucherenko*
SPECTRAL TRANSFORMATIONS OF HYBRID NANOSTRUCTURES WITH EXCITON-PLASMON COUPLING IN MAGNETIC FIELD
- 11³⁰ - 11⁴⁰** ***Coffee break***
- 11⁴⁰ - 12²⁰ *Takashi Suzuki*
ULTRASONIC STUDY ON ELECTRONIC PROPERTIES AND MAGNETISM OF CHIRAL COMPOUND DyNi₃Ga₉
- 12²⁰ - 12⁴⁰ *Niyaz Kh. Ibrayev and Dmitriy A. Afanasyev*
SPIN EFFECTS OF FORMATION OF CHARGE CARRIERS AT THE INTERFACE BETWEEN SEMICONDUCTOR/DYE
- 12⁴⁰ - 13⁰⁰ *Eskender K. Alidzhanov and Dmitriy A. Razdobreev*
DONOR-ACCEPTOR SYSTEMS BASED ON ORGANIC SEMICONDUCTOR DOPED BY SIMPLE AND ENDOHEDRAL FULLERENES
- 13⁰⁰ - 14⁰⁰** ***Lunch***
- 14⁰⁰ - 17⁰⁰** **Plenary session 2**
Co-chairs: *Professors Ryo Sekiya and Michael Kucherenko*
- 14⁰⁰ - 14⁴⁰ *Takayuki Ebata*
STUDY ON NONRADIATIVE DECAY AND PHOTO-ISOMERIZATION OF CINNAMATE DERIVATIVES IN THE GAS-PHASE

14⁴⁰ - 15⁰⁰ Azamat T. Ishemgulov, Sergey N. Letuta and Sergey N. Pashkevich
MONITORING OF OXYGEN CONTENT CHANGES IN TISSUES
IN VIVO

15⁰⁰ - 15⁴⁰ Ryo Sekiya
CHEMICAL FUNCTIONALIZATION OF NANOGRAFPHENES

15⁴⁰ - 16⁰⁰ Alexander P. Rusinov and Michael G. Kucherenko
INVESTIGATION OF THE OXYGEN MOLECULES BINDING
WITH TRAP CENTERS BY TIME-RESOLVED FLUOROMETRY

16⁰⁰ - 16¹⁰ **Coffee break**

Co-chairs: *Professors Takashi Suzuki and Niyaz Ibrayev*

16¹⁰ - 16⁴⁰ Vitaliy L. Berdinsky and Uliana G. Letuta
PHYSICAL MECHANISMS OF BIOLOGICAL
MAGNETOSENSITIVITY

16⁴⁰ - 17⁰⁰ Tatiana M. Chmereva and Michael G. Kucherenko
MAGNETIC CIRCULAR DICHROISM SPECTRA OF TWO-
PARTICLE MAGNETOPLASMONIC CLUSTERS

31 October

10⁰⁰ - 13⁰⁰ **Plenary session 3**

Co-chairs: *Professors Katsuya Inoue and Tatiana Chmereva*

10⁰⁰ – 10⁴⁰ Katsuya Inoue
CHIRALITY IN THE UNIVERSE

10⁴⁰ - 11⁰⁰ Yury D. Lantukh and Gennady A. Tikhonov
BIOPOLYMER – ORGANIC DYE COMPLEXES IN MOLECULAR
PHOTONICS APPLICATIONS

11⁰⁰ - 11²⁰ Petr P. Neyasov, Michael G. Kucherenko and Ildar R. Alimbekov
ANNIHILATION DELAYED FLUORESCENCE OF ORGANIC
MOLECULES IN NANOREACTORS WITH FERROMAGNETIC
PARTICLES

11²⁰ - 11⁴⁰ **Coffee break**

11⁴⁰ – 12⁰⁰ Nikita Yu. Kruchinin and Michael G. Kucherenko

MOLECULAR DYNAMICS SIMULATION OF ELECTRICALLY
INDUCED CONFORMATIONAL CHANGES OF
POLYAMPHOLYTES ON THE SURFACE OF GOLD
NANOPARTICLE

- 12⁰⁰ – 12²⁰ *Tatiana Sherstobitova, Sadafumi Nishihara, Katsuya Inoue, Kseniya Maryunina, Galina Romanenko, Svyatoslav Tolstikov*
Cu(II) COMPLEXES WITH BROMINE AND METHYL
DERIVATIVES OF 3-PYRIDYL-SUBSTITUTED NITROXIDES:
MAGNETOSTRUCTURAL CORRELATIONS
- 12²⁰ – 12⁴⁰ *Sergey A. Pen'kov and Michael G. Kucherenko*
FLUORESCENCE DETECTED MAGNETIC RESONANCE
SPECTRA OF ANNIHILATED MOLECULAR TRIPLET PAIRS IN
SPHERICAL NANOPORES
- 12⁴⁰ – 13⁰⁰ **Discussion and Invitation to Poster session**
- 13⁰⁰ - 14⁰⁰ **Lunch**
- 14⁰⁰ – 16⁰⁰ **Poster session and discussion**
- 16⁰⁰ – 17⁰⁰ **Round Table and Discussion “New Philosophical Problems of
Modern Physics”, 2235**
Co-chairs: *Professors Yoshifumi Tanimoto and Vitaliy Berdinsky*
- 17⁰⁰ – 18⁰⁰ **Closing Ceremony**

Posters

1. *Tcibulnikova A.V., Myslitskaya N.A., Slezhkin V.A., Bryukhanov V.V., Samusev I.G.* ENHANCEMENT OF PORPHYRIN I MOLECULES FLUORESCENCE IN THE PRESENCE OF Yb^{3+} IONS
2. *Guchenko S.A., Zavatskaya O.N., Yurov V.M., Laurinas V.Ch., Kasymov S.S.* HIGH ENTROPY NANOMATERIALS AND COATINGS
3. *Oleshko V.S., Guchenko S.A., Yurov V.M.* SURFACE ENERGY OF NANOSTRUCTURAL MATERIALS
4. *Eremin E.N., Guchenko S.A., Yurov V.M.* MECHANICAL PROPERTIES OF NANOSTRUCTURAL COATINGS
5. *Krugova E.Y., Melnikov A.G., Tretyachenko E.V., Gorokhovskiy A.V., Melnikov G.V.* STUDY OF INTERACTION OF ALIZARIN COMPLEXON WITH NANOPARTICLES OF POLYTITANATE POTASSIUM
6. *Nalbandyan V.M.* ACCOUNTING OF THE DELAY EFFECTS IN THE ABSORPTION OF LIGHT BY CONDUCTIVE NANOPARTICLES AND NANOCCLUSERS
7. *Letuta U. G.* MAGNETIC EFFECTS ON ELEMENTAL COMPOSITION OF BACTERIAL CELLS *E. COLI*
8. *Kucherenko M.G., Stepanov V.N., Kruchinin N.Yu.* PLASMON-ACTIVATED MEH-PPV LUMINESCENCE IN SOLUTIONS WITH SINGLE- AND DOUBLE-WALL CARBON NANOTUBES
9. *Ibrayev N. Kh., Aimukhanov A. K.* STIMULATED EMISSION OF 1,3,5,7,8-PENTAMETHYL-2,6-DIETHYLPYRROMETHENE-DIFLUOROBORATE COMPLEX WITH SILVER NANOPARTICLES IN POROUS ALUMINUM
10. *Kucherenko M.G., Chmereva T.M.* MAGNETIC CIRCULAR

DICHROISM SPECTRA OF LAYERED NANOPARTICLES WITH FERRO - AND DIAMAGNETIC COMPONENTS

11. *Arifullin M.R., Berdinskiy V.L.* PHASE SHIFTED PULSES FOR QFT OPERATIONS WITH PARAMAGNETIC IONS
12. *Nikiyan H.N., Davydova O.K.* 4-HEXYLRESORCINOL INCREASES *ESCHERICHIA COLI* SENSITIVITY TO CATIONIC FULLERENE DERIVATIVES
13. *Zhumabekov A.Zh., Ibrayev N.Kh., Seliverstova E.V.* OBTAINING AND INVESTIGATION OF PROPERTIES OF TiO₂-GO NANOCOMPOSIT
14. *Mulloev N.U. 1, Lavrik N.L. 2, Khodiev M.1, Islomov Z.Z* THE STUDY OF THE EFFECT OF THE INTRODUCTION OF SUBSTITUENTS INTO THE 1,2,4-TRIAZOLE MOLECULE BY IR SPECTROSCOPY
15. *Gunkov V.V.* CALCULATION OF TEMPERATURE FIELDS IN THE SINTERED SILICON CERAMICS
16. *Koltsova E.G., Zemtsov V.V.* POLYOXOMETALLATES WITH KEGGIN STRUCTURE - THE ANALYTICAL FORMS FOR SEMICONDUCTIVE MATERIALS Ga_xIn_{1-x}P, Ga_xIn_{1-x}As, GaAs_xP_{1-x}.
17. *Seliverstova E., Dzhanabekova R., Ibrayev N., Zhumabekov A.* PREPARATION AND STUDYING OF LANGMUIR FILMS BASED ON N-DOPED GRAPHENE OXIDE
18. *Ibrayev N.Kh., Ishchenko A.A., Kudinova M.A., Seliverstova E.V., Zhumabay N.D.* EFFECT OF PLASMON RESONANCE OF AG AND AU NANOPARTICLES ON SPECTRAL-LUMINESCENT PROPERTIES OF POLYMETHINE DYES
19. *Stroganova E.A., Bezryadin S.G.* THE COMPETITION OF THE GE(IV) AND CU(II) IONS SORPTION INTO THE AN-31 EXCHANGER
20. *Chetverikova A.G., Kanygina O.N.* ELECTRON PARAMAGNETIC RESONANCE STUDIES OF IRON OXIDES ASSOCIATED WITH THE SURFACE OF MONTMORILLONITE

21. *Tikhonova T.A., Letuta U.G., Tkachenko E.A.* MAGNETIC FIELDS AND MAGNETIC ISOTOPE ^{25}MG EFFECTS IN BIOFILMS FORMATION BY *E. COLI* BACTERIA
22. *Abramova V.V., Dubskikh V.A.* SYNTHESIS of 1,3-PROPYLENE-BIS-[4,4'-methylene-bis-(1,2-dihydro-1,5-dimethyl-2-phenyl-3-pyrazolone)] AS A NEW DERIVATIVE OF DIANTIPYRILMETHANE
23. *Abramova V.V., Dubskikh V.A.* THE POSSIBILITY OF EDUCATION OF COMPLEX COMPOUNDS OF 1,4-PHENYLENE-BIS-DYANTIPIRYLMETHANE WITH CATIONS OF SOME D-METALS

**Proceedings of Round Table
“New Philosophical Problems of Modern Physics”**

1. *Katsuya Inoue*
SCIENCE PHYLOSOPHY
2. *Lobovikov V.O.*
KANT'S IDEA OF PERSON PRESCIBING A-PRIORI LOWS TO NATURE FROM THE VIEWPOINT OF FORMAL AXIOMATIC EPISTEMOLOGY THEORY
3. *Hadzharov M. H.*
PHYLOSOPHICAL IDEAS AND CONCEPTS IN THE DEVELOPMENT OF CONCEPTUUAL SYSTEMS OF THE WORLD IN PHYSICAL SCIENCES
4. *Goncharov V. N., Hadzharov M.H.*
PHYLOSOPHY AND PHYSICAL PICTURE OF THE WORLD: DIALECTICS OF INTERACTION AND COMPEMENTARITY OF KNOWLEDGE
5. *Lyashchenko M.N., Hadzharov M.H.*
THE CORRECTING PHYLOSOPHY ROLE IN DEVELOPMENT OF PHYSICAL SCIENCES
6. *Shcherbakova M.V.*
MODERN TENDENCIES IN ENGLISH LANGUAGE TEACHING OF RUSSIAN STUDENTS
7. *Sokabaeva S. S., Berdinsky V.L.*
PEDAGOGICAL PROLEGOMENA FOR FUTURE PHYSICS