

Institute for Nuclear Research  
of the Russian Academy of Sciences

Joint Institute for Nuclear Research

St. Petersburg State University

Petersburg Nuclear Physics Institute

## **QUARKS-2016**

19th International Seminar on High Energy Physics  
Pushkin, Russia, May 29 — June 4, 2016.

## Preliminary program

Moscow, 2016

## Sunday, May 29

### Afternoon: Registration

### Plenary Session. 18:00

1. Soloshenko Aleksey (JINR, Dubna)  
*Latest results from the 13 TeV LHC collisions from ATLAS.* — 30 min.
2. Dordevic Milos (Vinca Inst.)  
*Recent results from CMS.* — 30 min.
3. Rebbi Claudio (Boston U.)  
*Beyond standard model physics based on strong dynamics.* — 30 min.

## Monday, May 30

### **Plenary Session. 10:00**

1. Postnov Konstantin (SAI MSU)  
*LIGO GW150914 binary black hole merging: standard and non-standard origin.* — 30 min.
2. Rajendran Surjeet (Berkeley U.)  
*New Directions in Dark Matter Detection.* — 30 min.
3. Kolupaeva Liudmila (JINR, Dubna)  
*Current results of the NOvA experiment.* — 30 min.

Coffee Break.

4. Lawe Matthew David (Lancaster U.)  
*Recent results from the T2K experiment.* — 30 min.
5. Naumov Dmitry (JINR, Dubna)  
*Recent results from the Daya Bay experiment* — 30 min.
6. Smolnikov Anatoly (JINR, Dubna)  
*Double beta decay experiments and neutrino mass investigation: past, present and future.* — 30 min.

### **Parallel Section #1 (Hall #1). 15:00**

1. Chetyrkin Konstantin (KIT, Karlsruhe)  
*QCD running at 5 loops: current status.* — 30 min.
2. Kim Victor (PNPI, Gatchina)  
*Manifestations of BFKL evolution at high energies.* — 30 min.
3. Lee Roman (BINP, Novosibirsk)  
*Multiloop calculations with differential equations in  $\epsilon$ -form.* — 30 min.

4. Lublinsky Michael (BGU, Israel)  
*High energy QCD.* — 30 min.

5. Mikhailov Sergey (JINR, Dubna)  
*On the optimization of perturbative series in QCD.* — 20 min.

### Coffee Break.

6. Bednyakov Alexander (JINR, Dubna)  
*On the four-loop strong coupling beta-function in the SM.* — 20 min.
7. Galynskii Mikhail (JIPNR-Sosny, Minsk)  
*Alternative way to understand the unexpected results of the JLab polarization experiments to measure the Sachs form factors ratio.* — 20 min.
8. Melikhov Dmitry (SINP MSU)  
*Two puzzles in the beauty sector of QCD.* — 20 min.
9. Larin Sergey (INR, Moscow)  
*The mass-gap in Quantum Chromodynamics.* — 20 min.
10. Pusenkov Ilya (SPbSU)  
*Quark masses and meson spectrum: holographic approach.* — 20 min.

## Parallel Section #2 (Hall #2). 15:00

1. Pivovarov Grigory (INR, Moscow)  
*Gell-Mann Low Equation for Nonabelian Gauge Theories* — 30 min.
2. Nugaev Emin (INR, Moscow)  
 *$Q$ -balls in the Wick-Cutkosky Model.* — 30 min.
3. Gulamov Igor (SINP MSU)  
 *$U(1)$  gauged  $Q$ -balls in the logarithmic potential.* — 20 min.
4. Sokolov Alexander & Kudlis Andrew (SPbSU)  
*Universal effective coupling constants of 3D scalar  $\phi^4$  field theory and pseudo- $\epsilon$  expansion.* — 20 min.

5. Martinovic Lubomir (JINR Dubna & SAS, Bratislava)  
*Quantum field theory in two dimensions: light-front versus space-like solutions.* — 20 min.

Coffee Break.

6. Vereshagin Vladimir (SPbSU)  
*One-particle reducibility in effective theories.* — 20 min.
7. Lebedev Nikita (SPbSU)  
*Critical behaviour of the systems with an antisymmetric tensor order parameter.* — 20 min.
8. Zhokhov Roman (IHEP, Protvino)  
*Phase transitions in (2+1)-dimensional Gross-Neveu model with compactification in presence of external magnetic field.* — 20 min.
9. Kravtsova Galina (MSU)  
*Non-Hermitian quantum theory with maximal mass.* — 20 min.

### Parallel Section #3 (Hall #3). 15:00

1. Semenov-Tian-Shansky Kirill (PNPI)  
*Dual parametrization of GPDs v.s. the Mellin-Barnes transform approach and manifestation of the  $J = 0$  fixed pole in DVCS.* — 30 min.
2. Chekhov Leonid (SMI RAS, Moscow)  
*Higher Hurwitz numbers and gauge theories.* — 30 min.
3. Isaev Alexey (JINR, Dubna)  
*Bethe subalgebras in affine Birman-Murakami-Wenzl algebras and flat connections for  $q$ -KZ equations.* — 30 min.
4. Mironov Andrei (ITEP, Moscow)  
*AdS/CFT, Chern-Simons and  $\tau$ -functions.* — 30 min.
5. Zenkevich Yegor (INR, Moscow & ITEP, Moscow)  
*Topological strings and integrable systems.* — 20 min.

## Coffee Break.

6. Morozov Andrey (IITP RAS)  
*Colored HOMLY polynomials and arborescent knots.* — 30 min.
7. Bykov Dmitry (MPI, Potsdam & SMI, Moscow)  
*Integrable sigma-models with non-symmetric target spaces.* — 30 min.
8. Akhmedova Valeriya (HSE, Moscow)  
*Dispersionless DKP hierarchy and elliptic Lowner equation.* — 20 min.
9. Tikhanovskaya Maria (MEPHI, Moscow)  
*Local Quench In 1+1 Conformal Field Theory.* — 20 min.
10. Starodubtsev Artem (SPbSU)  
*Spectrum of quantum spacetime revisited.* — 20 min.

## Parallel Section #4 (Hall #4). 15:00

1. Blas Diego (CERN)  
*New ideas in non-linear structure formation.* — 30 min.
2. Gorbenko Victor (Stanford U.)  
*Small Weak Scale from Small Cosmological Constant.* — 30 min.
3. Ivanov Mikhail (EPFL & INR)  
*Systematic treatment of non-linear effects in Baryon Acoustic Oscillations.* — 30 min.
4. Duk Viacheslav (INR, Moscow & INFN, Perugia)  
*Cosmology tests in kaon decays (NA62 collaboration).* — 30 min.

## Coffee Break.

5. Khmelnitsky Andrey (INR, Moscow)  
*The cosmological constant problem and NEC violating cosmologies.* — 30 min.

6. Mironov Sergey (INR, Moscow)  
*TBA* — 20 min.
7. Tokareva Anna (INR, Moscow)  
*Inflation with light Weyl ghost.* — 20 min.
8. Balitsky Yaroslav (IHEP, Protvino)  
*Inflaton as a pseudo-Goldstone boson of vacuum energy shift symmetry.* — 20 min.
9. Novikov Oleg (SPbSU)  
*Pseudohermitian quantum cosmology.* — 20 min.

## Tuesday, May 31

### **Plenary Session. 10:00**

1. Starobinsky Alexei (Landau Inst., Moscow)  
*Present status of the inflationary scenario.* — 30 min.
2. Belavin Alexander (Landau Inst., Moscow)  
*On the exact solution  $SU(N)$  models of the topological conformal fields theory.* — 30 min.
3. Nekrasov Nikita (Stony Brook)  
*Local observables from extra dimensions.* — 30 min.

Coffee Break.

4. Mirbabayi Mehrdad (IAS Princeton)  
*Weinberg soft theorems and cosmological consistency conditions.* — 30 min.
5. Krasnikov Nikolai (INR, Moscow)  
*Search for light vector boson and light dark matter.* — 30 min.  
*NA64 experiment.*
6. Nesti Fabrizio (RBI)  
*Lepton Number Violation in Higgs decays.* — 30 min.

### **Parallel Section #1 (Hall #1). 15:00**

1. Achasov Nikolay (Sobolev Inst., Novosibirsk)  
*Physics of the charmonium-like state  $X(3872)$ .* — 30 min.
2. Afonin Sergey (SPbSU)  
*Universal description of radially excited heavy and light vector mesons.* — 30 min.
3. Petrov Vladimir (IHEP, Protvino)  
*Hadron Diffraction: Results and Problems.* — 30 min.

4. Braun Mikhail (SPbSU)  
*Pomeron interaction in the perturbative QCD.* — 30 min.

5. Petti Roberto (U. of South Carolina)  
*Nuclear Effects in Deuterium and Global PDF fits.* — 30 min.

### Coffee Break.

6. Jenkovszky Laszlo (Bogolyubov ITP, Kiev)  
*Relating low- $x$  structure functions to the rise of hadronic total cross sections.* — 30 min.

7. Kozachuk Anastasia (MSU)  
*Rare radiative leptonic  $B$ -decays.* — 20 min.

8. Kuvshinov Viacheslav (JIPNR-Sosny, Minsk)  
*Colour Information Lost in Vacuum.* — 20 min.

9. Zuboy Roman  
*Quark-Antiquark Model with Dynamical Zero Mode on the Light Front.* — 20 min.

10. Shaparau Valery (JIPNR-Sosny, Minsk)  
*Squeezed and Entangled Gluon States in QCD Jet.* — 20 min.

## Parallel Section #2 (Hall #2). 15:00

1. Kirsanov Mikhail (INR, Moscow)  
*Recent exotica results from CMS.* — 30 min.

2. Gorbunov Dmitry (INR, Moscow)  
*New Physics beyond the 750 GeV diphoton events.* — 30 min.

3. Nevzorov Roman (U. of Adelaide & ITEP)  
*E6 inspired composite Higgs model and 750 GeV Diphoton Excess.* — 30 min.

4. Romanino Andrea (SISSA)  
*The 750 GeV excess as a sgoldstino.* — 30 min.

5. Godunov Sergey (ITEP, Moscow)  
*TBA* — 20 min.

Coffee Break.

6. Dudko Lev (SINP)  
*"New Physics" search with electroweak top quark production.* — 30 min.
7. Arbuzov Boris (MSU)  
*Non-perturbative electroweak effects at the LHC.* — 30 min.
8. Petrova Elena (SINP MSU)  
*Post-Higgs MSSM scenarios associated with the new diphoton resonance data.* — 20 min.
9. Sobolev Ivan (INR, Moscow & MSU)  
*Sgoldstino physics and flavor-violating Higgs boson decays.* — 20 min.

### Parallel Section #3 (Hall #3). 15:00

1. Akhmedov Emil (ITEP & HSE, Moscow)  
*On large IR loop effects in strong background fields.* — 30 min.
2. Lopez Nacir Diana Laura (CERN)  
*Infrared effects in de Sitter space-time.* — 30 min.
3. Grib Andrey & Pavlov Yuri (Herzen U.)  
*Properties of particles in the ergosphere of black holes.* — 30 min.
4. Shnir Yakov (JINR, Dubna)  
*Thermodynamic properties of asymptotically AdS black holes.* — 30 min.
5. Babichev Eugeny (LPT, Orsay)  
*Caustics in k-essence and Horndeski theory.* — 30 min.

Coffee Break.

6. Koroteev Peter (Perimeter Inst.)  
*Studying Critical String Emerging from Non-Abelian Vortex in Four Dimensions.* — 30 min.
7. Kozhevnikov Arkadii (Sobolev Inst., Novosibirsk)  
*Vortex dynamics in non-relativistic version of Abelian Higgs model.* — 30 min.
8. Smolyakov Mikhail (SINP MSU)  
*Fermions in 5D brane world models.* — 30 min.
9. Latosh Boris (Dubna U.)  
*Maeda-Dadhich solution as astrophysical black holes.* — 20 min.
10. Tretyakova Daria (Ural Federal U.)  
*Wormholes and naked singularities in Brans-Dicke cosmology.* — 20 min.

### **Parallel Section #4 (Hall #4). 15:00**

1. Alberte Lasma (SISSA, Trieste)  
*Viscosity Bound Violation in Holographic Massive Gravity.* — 30 min.
2. Braguta Victor (IHEP, Protvino)  
*Properties QCD with nonzero chirality.* — 30 min.
3. Astrakhantsev Nikita (ITEP, Moscow)  
*Temperature dependence of QCD shear viscosity within SU(3)-gluodynamics.* — 20 min.
4. Bravina Larissa (U. of Oslo)  
*Hydro and Jets in relativistic Heavy Ion collisions.* — 30 min.
5. Kerbikov Boris (ITEP, Moscow)  
*Fluctuation Sound Absorption in Quark Matter.* — 30 min.

Coffee Break.

6. Altsybeev Igor & Feofilov Grigory (SPbSU)  
*Azimuthal flow in hadron collisions from quark-gluon string repulsion.* — 20 min.

7. Kotov Andrey (ITEP, Moscow)  
*Lattice study of two-color QCD with nonzero baryon density.*  
— 20 min.
8. Gulitsky Nikolay (SPbSU)  
*Stochastic Navier-Stokes Equation with Colored Noise: Renormalization Group Analysis.*  
— 20 min.

## Wednesday, June 1

**Excursion. 10:00**

### **Parallel Section #1 (Hall #1). 15:00**

1. Bezrukov Leonid (INR, Moscow)  
*On geoneutrino.* — 30 min.
2. Polukhina Natalia (Lebedev Inst., Moscow)  
*Experiments of muon radiography with using emulsion track detectors.* — 30 min.
3. Urban Federico (KBFI Tallinn)  
*The very best limits on cosmological magnetic fields.* — 30 min.
4. Kisseelev Alexander (IHEP, Protvino & NRC "Kurchatov Inst.")  
*Warped extra dimensions and inclined events at Pierre Auger Observatory.* — 30 min.
5. Kuznetsov Mikhail (INR, Moscow)  
*Limits on UHE cosmic photons from EAS-MSU data.* — 20 min.

Coffee Break.

6. Satunin Petr (INR, Moscow)  
*Constraining deviations from Lorentz invariance from TeV photon detection.* — 20 min.
7. Grinyuk Andrey (JINR, Dubna)  
*Extensive Air Shower simulation and reconstruction for IACT in TAIGA.* — 20 min.
8. Romanenkova Evgenia (MEPHI, Moscow)  
*Measuring seasonal variations in the intensity of muon bundles.* — 20 min.
9. Sokolova Elena (INR, Moscow)  
*Search for differences between radio-loud and radio-quiet gamma-ray pulsars populations with Fermi-LAT data.* — 20 min.

## Parallel Section #2 (Hall #2). 15:00

1. Gromov Nikolay (King's college, London)  
*NNLO BFKL Pomeron eigenvalue in N=4 SYM.* — 30 min.
2. Kazakov Dmitry (JINR, Dubna)  
*UV Divergences in Maximal Supersymmetric Gauge Theories.* — 30 min.
3. Francia Dario (SNS, Pisa)  
*Cubic interactions for Maxwell-like higher spins.* — 30 min.
4. Smilga Andrei (U. of Nantes)  
*Ultraviolet structure in non-renormalizable supersymmetric theories.* — 30 min.
5. Ivanov Evgeny (JINR, Dubna)  
*Harmonic superspaces for N=(1,1), 6D SYM theory.* — 30 min.

Coffee Break.

6. Samsonov Igor (U. of Western Australia)  
*Features of correlation functions in three-dimensional superconformal theories.* — 30 min.
7. Musaev Edvard (Albert Einstein Inst., Postdam)  
*Duality covariant approach to non-geometric branes.* — 30 min.
8. Merzlikin Boris (TSPU, Tomsk)  
*Effective Kahler potential in N=2, d=3 SQED.* — 20 min.
9. Blatov Alex (IMU)  
*Strongly coupled theory and holographic duality.* — 20 min.

## Parallel Section #3 (Hall #3). 15:00

1. Trincherini Enrico (INFN, Pisa)  
*Weakly broken galileon invariance.* — 30 min.

2. Vikman Alexander (FZU, Prague)  
*Canonical Exorcism for Cosmological Ghosts.* — 30 min.
3. Figueroa Daniel (CERN)  
*Originating the hot Big Bang from the Standard Model Higgs.* — 30 min.
4. Rubakov Valery (INR, Moscow)  
*TBA* — 30 min.
5. Rubtsov Grigory (INR, Moscow)  
*Constraining (pseudo)conformal universe and anisotropic inflation with Planck data.* — 30 min.

Coffee Break.

6. Berezin Victor (INR, Moscow)  
*Cosmological particle creation in conformal gravity.* — 30 min.
7. Koshelev Alexey (U. da Beira)  
*Occurrence of exact  $R^2$  inflation in non-local UV-complete gravity.* — 30 min.
8. Muller Daniel (Brazilia U.)  
*Quadratic Gravity and Solutions.* — 30 min.
9. Toporensky Alexey (SAI MSU)  
*Asymptotic cosmological solutions in teleparallel gravity.* — 30 min.
10. Dyadina Polina (SAI MSU)  
*Verification of  $f(R)$ -gravity in binary pulsars.* — 20 min.

### **Parallel Section #4 (Hall #4). 15:00**

1. Stavinsky Alexey (ITEP, Moscow)  
*Dense cold matter.* — 30 min.
2. Chudaykin Anton (INR, Moscow)  
*A dark matter component decaying after recombination: global fit to cosmological data.* — 20 min.

3. Shabanov Arseniy (INR, Moscow)  
*ALICE experimental capabilities in diffractive physics.* — 30 min.
4. Ostapchenko Sergey (FIAS, Frankfurt)  
*Constraints on high energy interaction models from LHC and cosmic ray data.* — 30 min.
5. Ryadovikov Vasily (IHEP, Protvino)  
*Charmed particles production in pA-interactions at 70 GeV.* — 20 min.

Coffee Break.

6. Belikov Jouri (IPHC)  
*Upgrade of the ALICE ITS: expected performance and physics program.* — 20 min.
7. Ageev Dmitry (Steklov Math Inst., Moscow)  
*Holographic thermalization beyond two-points correlators.* — 20 min.
8. Kostenko Mariia (SPbSU)  
*Renormalization Group approach to turbulence.* — 30 min.
9. Kakin Polina (SPbSU)  
*Scaling in erosion of landscapes: Renormalization group analysis of a model with infinitely many couplings.* — 20 min.
10. Suetin Daniil (SPbSPU)  
*Investigation of the influence of nuclear matter on hard neutral lepton interaction.* — 20 min.

## **Thursday, June 2**

### **Plenary Session. 10:00**

1. Lakomov Igor (CERN)  
*Overview talk on recent ALICE results.* — 30 min.
2. Rogachevsky Oleg (JINR, Dubna)  
*Physics at NICA.* — 30 min.
3. Schoenning Karin (Uppsala U.)  
*Overview of the Physics Programme of PANDA at FAIR.* — 30 min.

Coffee Break.

4. Kuehn Johann (KIT, Karlsruhe)  
*Determination of  $\alpha_s$  from  $e^+ e^-$  to Hadrons.* — 30 min.
5. Aref'eva Irina (Steklov Math. Inst., Moscow)  
*Holography for heavy ions collisions.* — 30 min.
6. Zakharov Valentin (ITEP, Moscow)  
*The long string at the stretched horizon and the entropy of large non-extremal black holes.* — 30 min.

### **Parallel Section #1 (Hall #1). 15:00**

1. Boos Eduard (SINP MSU)  
*Higgs-radion phenomenology in stabilized brane world models.* — 30 min.
2. Villadoro Giovanni (ICTP)  
*The QCD Axion, Precisely.* — 30 min.
3. Dorokhov Alexander (JINR, Dubna)  
*Status of the muon g-2 problem.* — 30 min.

4. Arbuzov Andrey (JINR, Dubna)  
*Missed radiative corrections in experiments on muon  $g-2$  and proton charge radius.* — 20 min.
- Coffee Break.
5. Savvidis Georgios (NCSR Demokritos, Athens)  
*Proton structure, its spin and tensor gluons.* — 30 min.
6. Karshenboim Saveliy (Pulkovo observatory & MPQ)  
*Present status of the determination of the proton radius.* — 30 min.
7. Krutov Alexander (Samara U.)  
*Poincare-invariant constituent quark model for light mesons: capabilities and constraints.* — 30 min.
8. Kovalenko Vladimir (SPbSU)  
*Azimuthal anisotropy of long-range correlations in string fusion approach.* — 30 min.
9. Vechernin Vladimir (SPbSU)  
*Long-range rapidity correlations between mean transverse momenta in the model with string fusion.* — 20 min.

## Parallel Section #2 (Hall #2). 15:00

1. Taronna Massimo (Brussels U.)  
*Higher-Spin Interactions from CFT.* — 30 min.
2. Gelfond Olga (Lebedev Inst., Moscow)  
*Unfolded Form of Current Interactions of 4d Higher-Spin Fields.* — 30 min.
3. Misuna Nikita (Lebedev Inst., Moscow)  
*Charges in nonlinear higher-spin theory.* — 20 min.
4. Snegirev Timofey (Tomsk SPU & Tomsk Politechnic U.)  
*On massive higher-spin supermultiplets in 3D.* — 20 min.
5. Zabzine Maxim (Uppsala U.)  
*Localization in gauge theories.* — 30 min.

## Coffee Break.

6. Marakulin Artur (INR, Moscow)  
*Supergravity with broken Lorentz invariance.* — 20 min.
7. Bekaert Xavier (Tours U.)  
*Bulk quartic vertices from boundary four-point correlators.* — 30 min.
8. Stepanyantz Konstantin (MSU)  
*Some aspects of  $N=1$  SYM renormalization.* — 30 min.
9. Khramtsov Mikhail (Steklov Math. Inst.)  
*Holographic prescription for multiconnected spaces.* — 20 min.

## Parallel Section #3 (Hall #3). 15:00

1. Verkhodanov Oleg (SAO RAS)  
*To the problem of the secondary CMB anisotropy separation.* — 30 min.
2. Barvinsky Andrei (Lebedev Inst.)  
*Conformal higher spin fields in cosmology and a new type of hill top inflation.* — 30 min.
3. Tetradis Nikolaos (U. of Athens)  
*Viscous dark matter.* — 30 min.
4. Arbuzova Elena (Dubna U. & NSU, Novosibirsk)  
*Kinetics of spontaneous baryogenesis in non-stationary background.* — 30 min.
5. Ramazanov Sabir (GSSI)  
*Living with ghosts in Horava-Lifshitz gravity.* — 20 min.

## Coffee Break.

6. Dolgopolov Mikhail (SSAU, Samara)  
*Finite-temperature Higgs potentials.* — 30 min.

- 7. Vernov Sergey (SINP MSU)  
*Integrable cosmological model with non-minimal coupling and bounce solutions.* — 20 min.
- 8. Nikiforova Vasilisa (INR, Moscow)  
*One model of modified gravity.* — 20 min.

### **Parallel Section #4 (Hall #4). 15:00**

- 1. Pankov Alexander (Tech. Univ. of Gomel)  
*Precise determination of  $Z - Z'$  mixing in  $W$  boson pair production at the LHC.* — 20 min.
- 2. Timiryasov Inar (INR, Moscow)  
*Dark matter at the SHiP experiment.* — 20 min.
- 3. Astapov Konstantin (INR, Moscow)  
*Signal rate estimates for sgoldstinos in the SHiP.* — 20 min.
- 4. Tlisov Danila (INR, Moscow)  
*Possibility of Space Anisotropy search at Colliders.* — 20 min.

Coffee Break.

- 5. Kataev Andrey (INR, Moscow)  
*Operator product expansion to AVV triangle amplitude in QCD and QED and the manifestation of the conformal symmetry and its perturbative breaking effects : the new results at the current stage of investigations.* — 30 min.
- 6. Czarnecki Andrzej (U. of Alberta)  
*Properties of bound electrons and muons.* — 30 min.
- 7. Penin Alexander (U. of Alberta)  
*High-energy Limit of QED beyond Sudakov Approximation.* — 30 min.
- 8. Biryukov Alexander & Shleenkov Mark (SSAU, Samara)  
*The Feynman-Vernon Influence Functional Approach in QED.* — 20 min.

9. Kiselev Alexey (Sobolev Ins. for Math. & NSU)  
*Transition formfactors  $\gamma^* \rightarrow \gamma f_2(1270)$  and  $\gamma^* \rightarrow \gamma a_2(1320)$  in the  $e^+e^-$  collisions.*— 20 min.

**Conference dinner. 20:00**

## Friday, June 3

### **Plenary Session. 10:00**

1. Vazquez Gomez Ricardo (Laboratori Nazionali di Frascati)  
*Overview of LHCb Results.* — 30 min.
2. Liventsev Dmitri (Virginia Tech. & KEK)  
*Recent Results from Belle.* — 30 min.
3. Pakhlov Pavel (Lebedev Inst. & MEPhI)  
*Flavor physics at Super B factories.* — 30 min.

Coffee Break.

4. Sagnotti Augusto (Scuola Normale Superiore)  
*On some generalizations pf Born-Infeld Theory.* — 30 min.
5. Kaplan David (Johns Hopkins U.)  
*Cosmological Relaxation of the Electroweak Scale.* — 30 min.
6. Andrianov Alexander (SPbSU)  
*Chiral Imbalance in QCD and its consequences.* — 30 min.

### **Parallel Section #1 (Hall #1). 15:00**

1. Levkov Dmitry (INR, Moscow)  
*High-energy limit of collision-induced tunneling.* — 30 min.
2. Shkerin Andrey (EPFL)  
*On black hole induced false vacuum decay.* — 20 min.
3. Zaslavsky Oleg (Kharkov U.)  
*High energy particle collisions near black holes.* — 20 min.

4. Marachevsky Valery (SPbSU)  
*The Casimir-Polder potential: exact and asymptotic results.* — 30 min.

5. Pismak Yury (SPbSU)  
*Bound states in a model of interaction of Dirac field with material plane.* — 30 min.

Coffee Break.

6. Kompaniets Mikhail (SPbSU)  
*Multiloop calculations with hyperlogarithms (HyperInt): Six loop approximation in  $\varphi^4$  model.* — 30 min.

7. Fitkevich Maxim (INR & MIPT, Moscow)  
*TBA* — 20 min.

8. Gubina Nadezhda (MSU)  
*Vacuum polarization in the model of Dirac fermions with anomalous magnetic moment interacting with background axial-vector condensate and magnetic field.* — 20 min.

9. Radovskaya Anna (Lebedev Inst.)  
*Applicability of the Wigner functional approach to an evolution of quantum fields.* — 20 min.

10. Lobanov Andrey (MSU)  
*How to construct a consistent and physically relevant Fock space of neutrino flavor states?* — 20 min.

**Parallel Section #2 (Hall #2). 15:00**

1. Kirpichnikov Dmitry (INR, Moscow)  
*Split NMSMM after LHC 8.* — 20 min.

2. Gurskaya Albina (SSAU, Samara)  
*The Higgs bosons decays in the NMSSM scenarios with CP-violation.* — 20 min.

3. Pikelner Andrey (JINR, Dubna)  
*Stability of the Electroweak Vacuum: Gauge Independence and Advanced Precision.* — 30 min.

4. Bezrukov Fedor (U. of Connecticut)  
*TBA* — 30 min.

Coffee Break.

5. Polyarush Alexander (INR, Moscow)  
*Study of radiative kaon decay  $K \rightarrow e\nu\pi^0\gamma$  using OKA detector.* — 30 min.
6. Sapronov Andrey (JINR, Dubna)  
*xFitter project.* — 30 min.
7. Kulagin Sergey (INR, Moscow)  
*Understanding neutrino cross sections for nuclear targets.* — 30 min.
8. Alikhanov Ibragim (INR)  
*Resonant neutrino scattering on nuclei.* — 20 min.

### Parallel Section #3 (Hall #3). 15:00

1. Studenikin Alexander (MSU, JINR)  
*Electromagnetic properties of massive neutrinos.* — 30 min.
2. Tinyakov Peter (ULB)  
*A signature of EeV protons of Galactic origin.* — 30 min.
3. Pshirkov Maxim (SAI MSU)  
*Fermi bubbles around the M31 galaxy.* — 30 min.
4. Kalashev Oleg (INR, Moscow)  
*Constraining Dark Matter and Ultra-High Energy Cosmic Ray Sources with Fermi Diffuse Gamma Ray Background.* — 30 min.
5. Zhezher Yana (INR, Moscow)  
*Spatial structure of the WMAP/Planck haze* — 20 min.

Coffee Break.

6. Gorsky Alexander (IPPI, Moscow)  
*Some properties of the QCD and SQCD vacuum in the external fields.*  
— 30 min.
7. Rumyantsev Dmitry (Yaroslavl State U.)  
*Photon splitting in a strongly magnetized charge asymmetric plasma.*  
— 30 min.
8. Ptitsina Ksenia (INR, Moscow)  
*Gaps in black holes magnetospheres*  
— 30 min.
9. Panin Alexander (INR, Moscow)  
*Relativistic axions from collapsing Bose stars.*  
— 20 min.
10. Dvornikov Maxim (IZMIRAN, Tomsk State University)  
*Parity violating interaction and generation of magnetic fields in magnetars.*  
— 30 min.

### Parallel Section #4 (Hall #4). 15:00

1. Shevchenko Vladimir (NRC Kurchatov Inst.)  
*On a bound on quantum measurements precision.*  
— 30 min.
2. Vassilevich Dmitri (SPbSU)  
*Quantum field theory in graphene.*  
— 30 min.
3. Poppitz Erich (U. of Toronto)  
*The curious case of multi-instantons and the necessity of Lefshetz thimbles.*  
— 30 min.
4. Dudas Emilian (Ecole Polytechnique, Palaiseau)  
*Nilpotent supergravity and applications to inflation.*  
— 30 min.
5. Sotiriou Thomas (U. of Nottingham)  
*Lorentz violations, causality, and black holes.*  
— 30 min.

Coffee Break.

6. Sibiryakov Sergey (CERN & EPFL & INR)  
*Towards UV-complete theory of gravity in four dimensions.*  
— 30 min.

7. Kharuk Ivan (INR, Moscow)  
*Emergent Lorentz invariance with chiral fermions.* — 20 min.
8. Pozdeeva Ekaterina (SINP MSU)  
*Inflationary scenarios from RG-improved models, cosmological attractor.* — 20 min.
9. Smirnov Alexey (INR)  
*Traversable intra-inverse wormholes in General Relativity* — 20 min.

## Saturday, June 4

### Plenary Session. 10:00

1. Vasiliev Mikhail (Lebedev Inst., Moscow)  
*Current interactions and holography from nonlinear higher-spin equations.* — 30 min.
2. Lipatov Lev (PNPI, Gatchina)  
*Euler-Lagrange equations for high energy actions in QCD and in gravity.* — 30 min.
3. Tseytlin Arkady (Imperial College & Lebedev Inst. Moscow)  
*Quantum corrections in higher spin theory.* — 30 min.

Coffee Break. 11:30 – 11:50

4. Nesvizhevsky Valery (ILL, Grenoble)  
*Results of recent neutron lifetime measurement.* — 30 min.
5. Ospanov Rustem (Manchester U.)  
*ATLAS review of the Higgs boson properties.* — 30 min.
6. Zakharov Aleksander (ITEP, Moscow)  
*Trajectories of bright stars at the Galactic Center as a tool to evaluate graviton mass.* — 30 min.
7. *Closing*