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**НЦФМ**  
НАЦИОНАЛЬНЫЙ ЦЕНТР  
ФИЗИКИ И МАТЕМАТИКИ



**МГУ Саров**

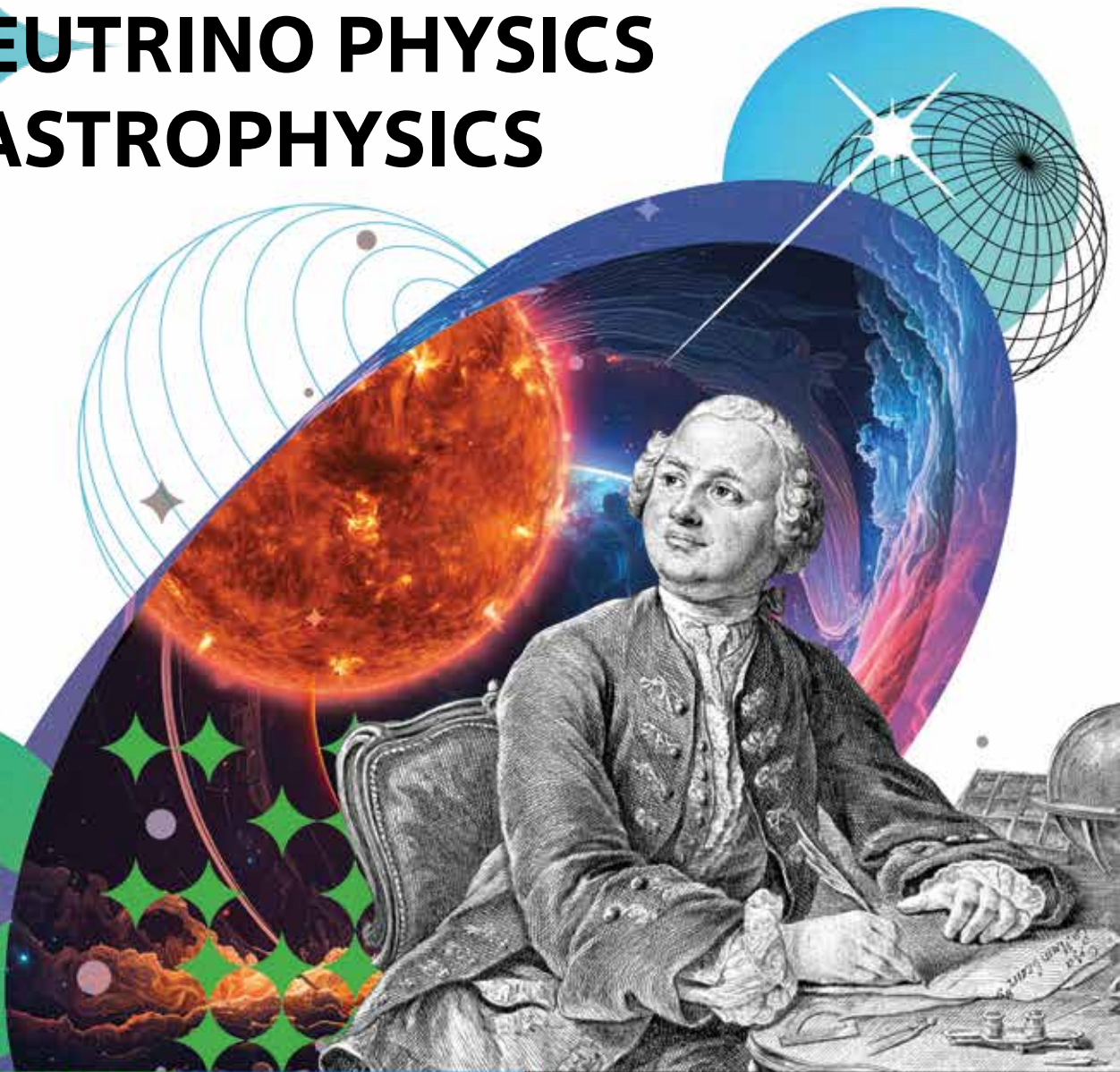


**ФИЗИЧЕСКИЙ  
ФАКУЛЬТЕТ МГУ**

# 16th INTERNATIONAL SCHOOL ON NEUTRINO PHYSICS AND ASTROPHYSICS

**23–27**

September | 2024



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**23 September / Monday**

time	activity	venue
08:30–09:30	<b>Breakfast</b>	Dining room, 1st floor
08:30–09:30	<b>Registration</b>	Hall «Book», Dining room 2nd floor
09:30–10:00	<b>OPENING</b> Moscow Time (UTC+3) (Central European Summer Time (UTC+2) is 1 hour less): Duration of lectures is 50+10 min, duration of presentations at young scientist's session is 17+3 min.  <b>Chair: Alexander Studenikin (MSU)</b> • Welcome on behalf of the National Centre for Physics and Mathematics (NCPHM) • Welcome on behalf of Joint Institute for Nuclear Research (JINR) • Welcome on behalf of Russian Federal Nuclear Center – All-Russian Scientific Research Institute of Experimental Physics (RFNC-VNIIEF)	Hall «Book», Dining room 2nd floor
10:00–10:30	<b>Scientific Programme of National Centre for Physics and Mathematics</b> • Stanislav Davydenko, NCPHM	Hall «Book», Dining room 2nd floor
10:30–11:00	<b>The Moscow University branch in Sarov «MSU_Sarov»</b> • Grigory Kachalin, RFNC-VNIIEF & MSU-Sarov	Hall «Book», Dining room 2nd floor
11:00–11:30	<b>Welcome from Programme Committee: The neutrino (history, current status and prospects)</b> • Alexander Studenikin, MSU	Hall «Book», Dining room 2nd floor
11:30–12:30 online	<b>Fundamental physics with reactor neutrinos</b> • Eugeny Yakushev, JINR	Hall «Book», Dining room 2nd floor
12:30–12:50	<b>Welcome on behalf of Faculty of Physics of Moscow State University</b> • Vladimir Belokurov, MSU	Hall «Book», Dining room 2nd floor
12:50–13:00	<b>Group photographing of participants</b> 📷	The main entrance of the Academic building of MSU Sarov
13:00–14:00	<b>Lunch</b>	Dining room 1st floor
14:00–15:00 online	<b>Solar neutrino searches in laboratory experiments</b> • Gioacchino Ranucci, INFN Milan	Hall «Book», Dining room 2nd floor
15:00–16:00 online	<b>High energy neutrino astronomy and neutrino telescope Baikal-GVD</b> • Maxim Sorokovikov, JINR	Hall «Book», Dining room 2nd floor
16:00–16:30	<b>Tea break</b>	Pavilion
<b>Young scientist's session # 1</b>		Hall «Book», Dining room 2nd floor
16:30–16:50	<b>Neutrino oscillations in the axion-like particles superfluid</b> • Alexey Lichkunov, MSU	
16:50–17:10	<b>Neutrino flavor and spin-flavor oscillations in transversely moving matter</b> • Yuri Litvinenko, MSU	
17:10–17:30	<b>Decoherence effects in propagation of cosmic neutrinos</b> • Anastasia Nikolaeva, MSU	
17:30–18:00	<b>Tea break</b>	Pavilion

time	activity	venue
<b>Young scientist's session # 2</b>		
18:00–18:20	<b>Impact of sterile neutrino decay on the dynamics of the expanding Universe</b> • Alexander Shchepkin, SPbPU & Ioffe Physical-Technical Inst. RAS	Hall «Book», Dining room 2nd floor
18:20–18:40	<b>Leptogenesis via absorption by primordial black holes</b> • Nikolay Pozdnyakov, NSU	
18:40–19:00	<b>Investigation of the properties and nature of a diffuse ionized gas medium at various heights and radii of disk galaxies</b> • Vera Postnikova, MSU	
19:00–19:20	<b>Effects of radiation transfer in neutral helium lines formed in ionized interstellar medium</b> • Inna Kozlovskaya, MSU-Sarov	
19:30–21:00	<b>Welcome Drink &amp; Buffet</b>	Pavilion

## 24 September / Tuesday

time	activity	venue
08:00–09:00	<b>Breakfast</b>	Dining room 1st floor
09:00–10:00 <i>online</i>	<b>The present status of the Standard Model</b> • Edward Boos, SINP MSU	Hall «Book», Dining room 2nd floor
10:00–11:00 <i>online</i>	<b>Physics programmes at the present and future e+e colliders</b> • Ivanka Bozovic, VINCA Inst., Belgrade	Hall «Book», Dining room 2nd floor
11:00–11:30	<b>Tea break</b>	Pavilion
11:30–12:30	<b>Neutrino oscillations in accelerator long-base experiments</b> • Yury Kudenko, INR RAS	Hall «Book», Dining room 2nd floor
12:30–13:30	<b>The present status and future prospects of the double beta decay</b> • Alexander Barabash, Kurchatov Inst., ITEP	Hall «Book», Dining room 2nd floor
13:30–14:30	<b>Lunch</b>	Dining room 1st floor

time	activity	venue
<b>Young scientist's session # 3</b>		
14:30–14:50	<b>Detection of muon neutrinos using 3D segmented scintillator detector SuperFGD</b> • Anna Dergacheva, INR RAS	Hall «Book», Dining room 2nd floor
14:50–15:10	<b>Measurement of muon neutrino and antineutrino spectra with improved particle identification in the near detector of the T2K experiment</b> • Daria Fedorova, INR RAS & MIPT	
15:10–15:30	<b>Calibration of the SuperFGD detector taking into account the attenuation of the signal in the WLS fiber</b> • Angelina Chvirova, MEPhI	
15:30–15:50	<b>Estimation of the atmospheric neutrinos detection efficiency in the NOvA experiment</b> • Alexandra Ivanova, ISU	
15:50–16:10	<b>Search for the double beta decay of Zr-96 into excited states of Mo-96</b> • Temirlan Khusainov, JINR & MEPhI	

time	activity	venue
16:10–16:40	<b>Tea break</b>	Pavilion
<b>Young scientist's session # 4</b>		
16:40–17:00 <i>online</i>	<b>Energy spectrum of primary cosmic rays according to the data of the Tunka-Grande array</b> • Anna Ivanova, ISU	Hall «Book», Dining room 2nd floor
17:00–17:20	<b>Analysis of the spatial and temporal structure of EAS according to the data of the Tunka-Grande array</b> • Roman Monkhoev, ISU	
17:20–17:40	<b>Detection of gamma rays from the Crab Nebula using data from the TAIGA-IACT facility in the stereo observing mode</b> • Pavel Volchugov, SINP MSU	
17:40–18:00	<b>Stereoscopic observations of HAWC j2019+368 and LHAASO j0341+5258 gamma-ray sources on TAIGA-IACT facilities</b> • Alexander Razumov, MSU	
18:00–18:20	<b>Application of an array of multi-wire drift chambers with shielding by absorber layers for the study of high-energy near-vertical muons</b> • Ivan Troshin, MEPhI	
18:20–18:40	<b>Neutrino production in quasar plasma processes</b> • Anatoly Kovalev, SPbPU	
18:40–19:40	<b>Dinner</b>	Dining room 1st floor
19:40–21:30	<b>Cultural and entertainment program</b>	Hall «Book», Dining room 2nd floor

## 25 September / Wednesday

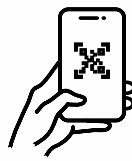
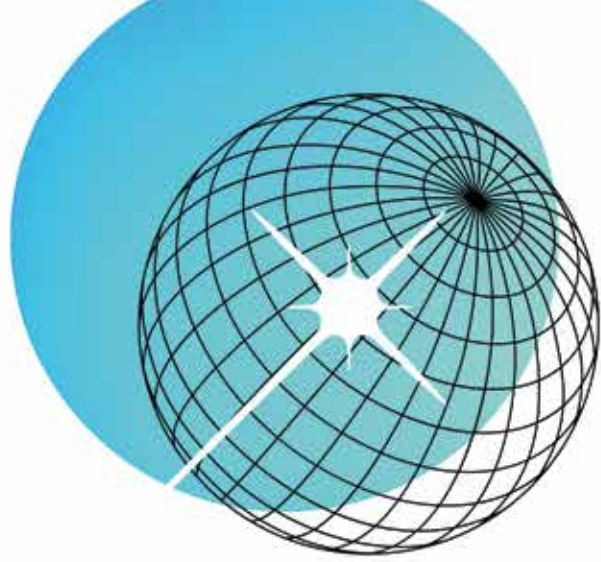
time	activity	venue
08:00–09:00	<b>Breakfast</b>	Dining room 1st floor
09:00–10:00	<b>Electromagnetic properties of neutrinos</b> • Alexander Studenikin, MSU	Hall «Book», Dining room 2nd floor
10:00–11:00 <i>online</i>	<b>The Gallium Anomaly</b> • Carlo Giunti, INFN Torino	Hall «Book», Dining room 2nd floor
11:00–11:30	<b>Tea break</b>	Pavilion
11:30–12:30	<b>Astrophysical neutrinos interactions and oscillations</b> • Artem Popov, MSU	Hall «Book», Dining room 2nd floor
12:30–13:30	<b>Neutrino quantum decoherence: Theory and experiment</b> • Konstantin Stankevich, MSU	Hall «Book», Dining room 2nd floor
13:30–14:30	<b>Lunch</b>	Dining room 1st floor
14.30 – 19.00	<b>Excursion program</b>	Sarov
19:00–20:00	<b>Dinner</b>	Pavilion
20:00–21:30	<b>Cultural and entertainment program</b>	Hall «Book», Dining room 2nd floor

# 26 September / Thursday

time	activity	venue
08:00–09:00	<b>Breakfast</b>	Dining room 1st floor
09:00–10:00	<b>Neutrinos in Early Universe</b> • Dmitry Gorbunov, INR RAS	Hall «Book», Dining room 2nd floor
10:00–11:00 <i>online</i>	<b>Multimessenger astronomy</b> • Konstantin Postnov, MSU	Hall «Book», Dining room 2nd floor
11:00–11:30	<b>Tea break</b>	Pavilion
11:30–12:30	<b>Astrophysics of particles and neutrinos</b> • Grigory Rubtsov, INR RAS	Hall «Book», Dining room 2nd floor
12:30–13:30 <i>online</i>	<b>Supernovae neutrinos</b> • Yufeng Li, IHEP	Hall «Book», Dining room 2nd floor
13:30–14:30	<b>Lunch</b>	Dining room 1st floor
14:30–15:30	<b>Experimental methods of neutrino physics</b> • Bayarto Lubsandorzhiiev, INR RAS	Hall «Book», Dining room 2nd floor
15.30–16:30	<b>Subterahertz receivers for radio astronomy and dark matter search</b> • Andrey Pankratov, Alekseev Univ., Nizhny Novgorod	Hall «Book», Dining room 2nd floor
16:30 – 17:00	<b>Tea break</b>	Pavilion
<b>Young scientist's session # 5</b>		Hall «Book», Dining room 2nd floor
17:00–17:20	<b>Calibration of the RNO-G neutrino radio detector based on signals from solar radio bursts</b> • Maria Mikhailova, MEPhI	
17:20–17:40	<b>Development of the NTSim software package for modelling neutrino telescopes and evaluating the efficiency of neutrino-induced event detection in the Baikal-GVD experiment</b> • Sergey Zavyalov, MSU & JINR	
17:40–18:00	<b>Search for sub-microsecond bursts of Cherenkov radio emission caused by the interaction of high-energy neutrinos with lunar regolith</b> • Sergey Shavkovich, PUSGU	
18:00–18:20	<b>Exploring primordial black holes with neutrino spectra: Unveiling future observational opportunities</b> • Pavel Kislitsyn, Ioffe Phys. Tech. Inst.	
19:00–21:00	<b>Conference Dinner</b>	Pavilion

# 27 September / Friday

time	activity	venue
08:00–09:00	<b>Breakfast</b>	Dining room 1st floor
09:00–10:00	<b>Astrophysical black holes: The case of the black hole in the galactic centre</b> • Alexander Zakharov, JINR, Kurchatov Inst. – ITEP	Hall «Book», Dining room 2nd floor
10:00–11:00	<b>Neutrinos in gravitational fields</b> • Maxim Dvornikov, IZMIRAN	Hall «Book», Dining room 2nd floor
11:00–11:30	<b>Tea break</b>	Pavilion
11:30–12:30	<b>Neutrino coherent scattering on nuclei</b> • Dmitry Akimov, MEPhI	Hall «Book», Dining room 2nd floor
12:30–13:30	<b>Neutrino interactions with atomic systems and the SATURNE project</b> • Konstantin Kouzakov, MSU	Hall «Book», Dining room 2nd floor
13:30–14:30	<b>Lunch</b>	Dining room 1st floor
<b>Young scientist's session # 6</b>		Hall «Book», Dining room 2nd floor
14:30–14:50	<b>Neutrino interactions with nucleons</b> • Fedor Lazarev, MSU	
14:50–15:10	<b>Neutrino scattering on superfluid helium with account for neutrino electromagnetic properties and collective effects</b> • Maxim Vyalkov, MSU-Sarov & NCPHM	
15:10–15:30	<b>Nonstandard neutrino interactions in neutrino scattering on atoms and nuclei</b> • Maxim Verkhovtsev, MSU-Sarov & RFNC-VNIIEF	
15:30–15:50	<b>Search for dark vector bosons in coherent elastic neutrino-nucleus and neutrino-atom scattering</b> • Mikhail Kubasov, MSU	
15:50–16:10	<b>Ionization of helium by solar neutrinos</b> • Ivan Stepanysov, MSU	
16:10–16:30	<b>Tea break</b>	Pavilion
16:30–18:00	<b>NCPHM scientific seminar</b> <b>Introduction</b> • Alexander Sergeev, NCPHM <b>Neutrino as a window to new physics</b> • Alexander Studenikin, MSU	
18:00–19:00	<b>Closing Session of the 16th International School on Neutrino Physics and Astrophysics / Farewell wishes</b> • Alexander Sergeev, the NCPHM Scientific Leader • Vyacheslav Solovyev, the RFNC-VNIIEF Scientific Leader • Alexander Studenikin (MSU), Co-chair of the Programme Committee • Arkady Yukhimchuk (RFNC-VNIIEF), Co-chair of the Programme Committee	Hall «Book», Dining room 2nd floor
19:00–20:00	<b>Dinner</b>	Dining room 1st floor



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