

Moscow International School of Physics 2020

3–9 March, 2020

2nd bulletin

The Moscow International School of Physics (MISP) is aimed at advanced students, PhD students and young postdocs working in high-energy physics. The program covers not only experimental and theoretical HEP physics, but also related fields: cosmology, machine learning, and mathematical physics. It should be noted that some preliminary knowledge of the subjects is necessary in order to be able to fully profit from the lecture courses. In addition to lecture courses, time will be allocated for presentations by participants of their research (Young Scientist Forum). The School language is English.

School Site and Date

The Moscow International School of Physics 2020 will be held from 3 till 9 March 2020 at the [HSE Study Center “Voronovo”](#) ~70 km to the south from Moscow.

GPS coordinates: 55°18'54.13"N (55.315035), 37°7'25.77"E (37.123825).

School is organized by [P.N. Lebedev Physical Institute of the Russian Academy of Sciences](#), [National Research University Higher School of Economics](#), and [Skolkovo Institute of Science and Technology](#). LLC MESOL is the authorized operator of the School.

Program Committee

- M. Danilov (LPI RAS & NRNU MEPhI) — chair
- S. Eidelman (LPI RAS & BINP)
- D. Gorbunov (INR RAS)
- G. Kabatiansky (Scoltech)
- D. Kazakov (JINR)
- V. Novikov (NRC «Kurchatov Institute» - ITEP & HSE)
- F. Ratnikov (HSE)
- M. Voloshin (Minnesota Univ.)
- M. Vysotsky (NRC «Kurchatov Institute» - ITEP & HSE)

Organizing Committee

- I. Chernysheva (NRNU MEPhI & LPI RAS)
- M. Chuyashkin (HSE)
- S. Eidelman (LPI RAS & BINP)
- G. Kabatiansky (Scoltech)
- P. Pakhlov (LPI RAS) — chair
- F. Ratnikov (HSE)
- D. Sidorina (LPI RAS)
- N. Skrobova (MIPT)
- E. Solovieva (LPI RAS)
- T. Uglov (LPI RAS)
- V. Zhukova (LPI RAS)

Scientific Programme

Scientific programme comprises a set of lectures and Young Scientist Forum. A tentative schedule is shown in the table.

Tentative School schedule

Time/date	03.03	04.03	05.03	06.03	07.03	08.03	09.03	
08:00 - 09:00		Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	
09:00 - 10:00		Lecture	Lecture	Lecture	E x c u r s i o n	Lecture	Lecture	
10:00 - 11:00		Lecture	Lecture	Lecture		Lecture	Lecture	
11:00 - 12:00	Arrival	Ski & outdoor	Ski & outdoor	Ski & outdoor		Ski & outdoor	Ski & outdoor	Coffee
12:00 - 13:00	Registration							Lecture
13:00 - 14:00	Lunch							Lecture
14:00 - 15:00	Lecture	Lunch	Lunch	Lunch		Lunch	Lunch	Lunch
15:00 - 16:00	Lecture	Lecture	Lecture	Lecture		Lecture	Lecture	Departure
16:00 - 17:00	Coffee	Lecture	Lecture	Lecture		Lecture	Lecture	
17:00 - 18:00	Lecture	Coffee	Coffee	Coffee		Coffee	Coffee	
18:00 - 19:00	Lecture	YSF	YSF	YSF		YSF	YSF	
19:00 - 20:00	Dinner	Dinner	Dinner	Dinner	School Dinner	Dinner		
20:00 - 21:00	Seminar	Seminar	Poster session	Seminar	Bonfire	YSF		
21:00 - 22:00	Seminar	Seminar		Concert		YSF		

List of Lectures

- “Neutrino Physics” by E. Akhmedov (Max Planck Institute for Nuclear Physics)
- “Some Trends and Challenges in Modern Theoretical Physics” by N. Nekrasov (Simons Center for Geometry and Physics & Skoltech & IITP RAS)
- “Flavor Physics” by M. Pepe-Altarelli (CERN)
- “Black Holes and Gravitational Waves” by K. Postnov (Sternberg Astronomical Institute & MSU)
- “Physics beyond the Standard Model” by R. Rattazzi (EPFL)

- “Machine Learning for Physicists” by A. Ustyuzhanin (HSE)
- “The Standard Cosmological Model” by A. Vikman (Central European Institute for Cosmology and Fundamental Physics)

Young Scientist Forum

Special sessions will be devoted to the presentations of participants’ scientific results. The report should be in form of a brief talk (10+2 minutes) or a poster (portrait A1 or landscape A0). The Program Committee will select talks and posters from the submitted ones for presentation. The most interesting talks will be published in the peer-reviewed journal “[Bulletin of the Lebedev Physics Institute](#)” indexed by the Web of Science platform. Authors of the posters, most voted for by the School participants, will receive special prizes.

Social Program

Midday hours before lunch will be dedicated to sports and other kinds of activity. Cross-country ski rent will be available for free.

The School social program will also include a concert and an excursion.

School Fee

The School fee is **35 000 Russian rubles (~€490)**.

The School fee covers the participation in all the scientific sessions, the School kit, accommodation, meals, coffee breaks, participation in all social events, and transfer between the School site and Moscow.

Fee for the accompanying persons is 25 000 Russian rubles (~€ 350).

The support from the Ministry of Science and High Education of Russia allows the Organizing Committee to reduce the fee for participants from Russia and FSU countries to **3 000 Russian rubles**.

The payment is to be done via credit card or bank transfer in advance. Official School operator LLC MESOL is authorized to collect payments.

The deadline for the payments for the invited candidates is February, 15. The payment serves as the confirmation of participation and is not refundable in case of the reduced School fee.

Before the departure, the School participant will receive documents, confirming the participation in the School and the payment. If you need extra documents prepared, please contact the Organizing Committee in advance.

Transportation

HSE Study Center “Voronovo” is situated in remote place, about 70 km to the south from Moscow. The transportation by the public transport is complicated and time-consuming. There will be buses provided for transportation from Moscow to the School site and back at arrival and departure days. The buses will depart from the one of the Moscow Metro stations on March, 3 at 10:00 and will return to the same place by 17:00 on the departure day. The details will be announced later.

There are three major airports in Moscow equally well connected to the center of Moscow by Aeroexpress trains. It is a cheap, but easy and comfortable way to get to Moscow. The high-speed trains run to one of railway stations in the city center. Travel time is about 35–40 minutes, 43–48 minutes, and 53 minutes from Vnukovo, Domodedovo, and Sheremetyevo airports, correspondingly. The interval between train departures is 30 minutes (1 hour from Vnukovo airport). Tickets cost 500 rubles (~€ 7) and can be purchased at ticket windows, ticket machines or at turnstiles. If you buy a ticket at the [company's website](#) (printed or saved at a smartphone ticket with QR code is required) or with the mobile app, the cost is 450 rubles (~€ 6). The working hours are from 06:00 till midnight.

There is a possibility to reach the school site from the Moscow airports by taxi. The approximate fares are 1 500 rubles, 2 000 rubles and 2 500 rubles from Vnukovo, Domodedovo, and Sheremetyevo airports, respectively. It is highly recommended to use Yandex or Gett services with convenient online application or use special desks at the airport buildings.

Transportation in Moscow

The Metro is the easiest and the most reliable way get around Moscow. Its layout is quite simple. Radial lines, which cut across the city in most directions, are joined together by a circular line, which also joins together the city's largest railway stations. Transport system also includes monorail and Moscow Central Circle (MCC). Each radial line has its own name, number, and color on the Metro map, and you can get from practically any station to another one with a maximum of three transfers.

To pay for your ride, buy a smart-card (“Ediniy” or “Troika”) from a cashier or ticket vending machines in the Metro (MCC) station vestibule.

Recline the smart-card to a yellow circle on the automatic gates, when green light is on or displays the number of remaining trips or the amount of money left on the card — pass through the gate. No matter how long you ride is or how many transfers you make, you pay no extra fee.

To help you find your way, there are several multicolored Metro maps in every car, and a loud speaker that announces the name of the station at every stop. The doors open and close automatically. There is a first-aid station and police post at every station. For information you can turn to any Metro employee — they wear blue uniforms and red hats.

Mobile communication (GSM) works at stations of the Moscow underground. Free Wi-Fi (“MT_Free”) available in trains.

The Metro starts work at 06:00, but stations open at 05:30–05:40. At 01:00 the entrances close and passengers must complete their transfers. Last train leaves also at 01:00.

Moscow Central Circle (MCC, Line 14) works from 05:45 to 00:30 every day. Transfer from Metro to MCC (and back) is free for 90 minutes from the first enter.

Fares information could be found at [Metro site](#).

Tips and Tricks

- You can pay using your credit card both for Aeroexpress and Metro tickets, however at least small amount of Russian rubles in cash is desirable.
- Taxi will require to pay in cash in Russian rubles.

- Foreign currency exchange offices at the airport have extortionate exchange rates compared to the offices in the city. It is better to get cash from ATMs (however you have to pay a commission, charged by your bank).
- We strongly recommend not to use the services of non-official taxi carriers. There are lots of drivers offering their services, please do realize that taking them you can end paying much more than expected.
- There are convenient online taxi-services Yandex and Gett. Please beware that usually taxi drivers do not speak English. The taxi fare cost from the airports to the center of Moscow should not exceed 1 500 rubles.

Accommodation

The majority of the School events will be held at the HSE Study Center “Voronovo”. The Center is set in scenic surroundings on the edge of an old forest and boasts spacious premises that are fully equipped for both educational and extracurricular events, and also for leisure activities ranging from sports to intellectual games. Wi-Fi is available across the site.

The Study Center comprises of two connected but separate buildings — main and public. The main building offers hotel-style accommodation consisting of fully equipped standard rooms and suites that have bathrooms, TV sets, and fridges. During the School participants will be accommodated in double rooms.

Climate

Moscow region climate is typically continental. Weather in the first half of March used to fit well for various winter sports, however this year the snow depth is extremely low (we hope that there will be snowfalls this February). It is usually sunny. The average temperature is about 0 degrees Celsius though sudden drops of temperature could be expected, as well as thaws, so having proper warm clothes is advised. This winter the depth of the snow in March is estimated to be above 20 cm.

Currency and Credit Cards

Money exchange (preferably Euro or US dollars) is possible in various exchange offices in Moscow. There are also many ATMs (“Bankomat”) in Moscow which accept major credit cards. We recommend to have some cash since credit cards are not accepted in small shops sometimes.

HSE Study Center “Voronovo” is situated in remote place. There are no money exchange offices in the vicinity.

Contacts

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