

V International Pontecorvo Neutrino Physics School



Бруно Понтекорво

Organized by the Joint Institute for Nuclear Research

6–16 September, 2012

Resort House “Dubna” in Alushta, Crimea, Ukraine

The program of the school will cover modern topics of neutrino physics including phenomenology, experimental results and theory.

<http://pontecorvosch.jinr.ru>

Organizing Committee

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I) GENERAL INFORMATION

The Joint Institute for Nuclear Research ([JINR](#), [Dubna](#)) is organizing the **V International Pontecorvo Neutrino Physics School to be held on 6-16 September, 2012** at the resort house "Dubna" in the town Alushta, Crimea, Ukraine. The school continues the tradition of Pontecorvo schools previously held at Dubna and Alushta in 1998, 2003, 2007 and 2010.

The school is named after the famous scientist Bruno Pontecorvo who was working at JINR since 1950 and is well known for his contribution to the world science. In 1957 Bruno Pontecorvo for the first time suggested the idea of neutrino oscillations - phenomenon which was experimentally discovered about 40 years later and which remains now one of the most intriguing subjects of the modern particle physics.

Nowadays scientists are more and more convinced that the understanding of tiny neutrino masses will bring us to the physics beyond the Standard Model and play key role in future development of the theory. Experiments all over the world are aiming to study the neutrino features using various neutrino sources and detector techniques. New ideas are coming along

both in theory and experiment and the interest to the neutrino physics is growing bringing to the field young people.

The purpose of the school is to review the present experimental and theoretical situation in neutrino physics. The lecture courses at the school will be given by the experts and will include phenomenology and theory reviews, discussion of experimental results and future programs, as well as cosmology, dark matter and astrophysics subjects. In total the school can accept about 80 participants (including lecturers), therefore, the priority will be given to the applicants with the strong neutrino physics motivation.

To apply to the school you need to fill in the [Registration Form](#). We kindly ask you to send applications before **30 June, 2012**. Limited number of grants are available from Organizing Committee for students accepted to the school, indicate in your application if you need financial support. Early application will increase the chance to be accepted!

II) THE PROGRAM

The program of the school includes lectures and discussions on basic topics of modern neutrino physics. For the moment it comprises the following lectures:

Neutrino Life and Life of Bruno Pontecorvo
Theory of neutrino masses and mixing
Theory of neutrino oscillations
Accelerator neutrinos: MINOS and NOvA
Accelerator neutrinos: T2K and OPERA
Seesaw mechanism of neutrino mass generation
Sterile neutrinos
Electromagnetic properties of the neutrino
Dark matter search experiments
Direct neutrino mass measurements
Solar and geo neutrinos. Status and prospects
Neutrinoless double beta-decay theory
Reactor neutrinos. Status and prospects
Neutrino and cosmology
Leptogenesis
Atmospheric neutrinos. Status and prospects
Neutrinoless double beta-decay experiments
Higgs and other searches at LHC
Future neutrino projects: Superbeam, Beta-beam, Neutrino factories

The lectures and social events will be organized as follows:

September 6 (Thursday) :	Arrival of participants
	Welcome party
September 7 (Friday):	Lecture day
September 8 (Saturday):	Lecture day
September 9 (Sunday):	Excursion
September 10 (Monday):	Lecture day
September 11 (Tuesday):	Lecture day
September 12 (Wednesday):	Excursion
September 13 (Thursday):	Lecture day
September 14 (Friday):	Lecture day
September 15 (Saturday) :	Lecture day
	School dinner
September 16 (Sunday):	Departure of participants

Lecture day time-table :

<i>Breakfast</i>	8.30-9.30
Lecture 1:	9.30-10.50
Coffee break:	10.50-11.10
Lecture 2:	11.10-12.30
<i>Lunch:</i>	14.00-15.00
Lecture 3:	16.00-17.20
Coffee break:	17.20-17.40
Lecture 4:	17.40-19.00
<i>Dinner:</i>	19.00-20.00

III) DESCRIPTION OF THE PLACE

The School will be held on the southern coast of the Crimea, at a comfortable Resort House “Dubna” (<http://dubna-crimea.com/en/>). The resort house “Dubna” is situated in the town Alushta, which is some 60 km away from the capital of Crimea – Simferopol (see map of the Crimea http://travel.kyiv.org/crimea/map/crimea_map.htm). Alushta is an administrative district of Autonomous Republic of Crimea, Ukraine.

It is one of the most ancient populated areas of the Southern Coast of Crimea (known from the VIth century). Alushta today is a center of resort zone which is more than 80 km long. The town is situated in the vastest valley of the Southern Coast. Mountains surround Alushta as in amphitheater and step back from the Black-Sea 5-10 km. The climate in the area is typically Mediterranean. The resort house “Dubna” is located about 150 meters from the beach.

Address in Alushta is:
Resort House "DUBNA"
Naberezhnaya street, 20,
Alushta, the Crimea, Ukraine;
phone (3806560)25492;
fax (3806560)25494

IV) ACCOMMODATION

Participants will be accommodated in the Resort House "Dubna". Students will share twin rooms. Each room has a separate bathroom.

A cost of a single room is ~70 € per day.

A cost of a double room is ~40 € per participant per day.

These prices will cover board and lodging and are the same for accompanying persons.

The school fee will be ~150 € per person and will include local transportation, social events (excursions, school dinner), coffee breaks and other local expenses of the school.

Ukrainian local currency is "hryvnia". Major credit cards and travellers' cheques are accepted at the banks in Alushta where it is also possible to change Euro and US dollars.

Participants are expected to arrive in Alushta on 6 September (afternoon) and leave on 16 September (morning). Transportation to the major connection point in Crimea - Simferopol (airport and railway station) will be provided on the arrival and departure dates by the Organizing Committee.

V) TRAVEL AND VISA INFORMATION

The nearest airport is in Simferopol. There are direct flights between Frankfurt and Simferopol. Transit via Kiev, Moscow, Odessa, St.Petersburg, Istanbul and Tel-Aviv are also recommended. There are many international flights to Kiev and several daily flights and overnight trains from Kiev to Simferopol.

It is also possible to reach Alushta by railways. The railway station in Simferopol is about 50 km from Alushta.

See the following links for airplane <http://www.kiyavia.com/en/index.html> and railway <http://www.tryukraine.com/info/transportation.shtml> schedules in Ukraine.

Local transportation from Simferopol airport and railway station will be provided by the Organizing Committee on the arrival and departure dates. Otherwise the school place can be reached by bus, trolleybus or taxi.

People from many countries do not need Ukrainian visa for a short stay, such as: USA, Canada, Japan, EU nations, Switzerland, Liechtenstein, Andorra, Vatican, Iceland, Monaco, Norway, San Marino, Mongolia, Lithuania and the countries of the Commonwealth of Independent States (except Turkmenistan).

Please check carefully regulations applicable to your case at <http://www.tryukraine.com/info/visas.shtml> and, in case you will need a visa, please ask the Organizing Committee for corresponding invitation.

VI) CONTACT INFORMATION

Please address all of your questions about the school and requests to:

General School E-mail pontecorvosch@jinr.ru

Oleg SAMOYLOV samoylov@jinr.ru

Elena PRYANICHNIKOVA elenapryan@jinr.ru

VII) REGISTRATION FORM

Surname:	
Name(s):	
Sex:	
Date of birth:	
Country of residence:	
Citizenship:	
Your home institution (full name):	
Your position:	
Your degree*:	
Academic status:	
Your research interests and current work (3-5 sentences):	
Would you like to present a poster?	
Poster title:	
Address for communication:	phone:
	fax:
	e-mail:
Preliminary arrival date:	
Preliminary departure date:	
I will be accompanied by (Name(s)):	
Comments:	

* Please, attach your certificate of degree, if you have an academic degree (PhD, master, etc.)