

**Program of the XXX-th International Workshop
on High Energy Physics**

**“PARTICLE and ASTROPARTICLE
PHYSICS, GRAVITATION and
COSMOLOGY:
PREDICTIONS, OBSERVATIONS
and NEW PROJECTS”**

*IHEP, Protvino, Russia
June 23-27, 2014*



The Time Schedule

Monday, June 23	Tuesday, June 24	Wednesday, June 25	Thursday, June 26	Friday, June 28
<i>A. Zaitsev</i>	<i>J. Kaspar</i>	<i>Excursion</i>	<i>Yu. Kharlov</i>	<i>F. Arqueros</i>
<i>V. Petrov</i>	<i>A. Sidoti</i>	<i>A. Sanz</i>	<i>S. Obraztsov</i>	<i>J. Espadanal</i>
<i>D. Horvath</i>	<i>A. Sobol</i>	<i>V. Petrov</i>	<i>D. Peresunko</i>	<i>H. Gast</i>
<i>L. Roos</i>	<i>S. Evdokimov</i>		<i>J. Blouw</i>	<i>V. Solovov</i>
<i>M. Dordevic</i>	<i>J. Blouw</i>		<i>V. Okorokov</i>	<i>Panel discussion</i>
<i>TBD</i>	<i>A. Valkarova</i>		<i>V. Bumazhnov</i>	<i>Yu. Baryshev</i>
<i>I. Myagkov</i>	<i>L. Jenkovsky</i>		<i>X.-M. Xu</i>	<i>A. Blin</i>
<i>Panel discussion</i>	<i>I. Dremin</i>		<i>Panel discussion</i>	<i>L. Marzola</i>
<i>P. Bargassa</i>	<i>Panel discussion</i>		<i>L. Pescatore</i>	<i>V. Sokolov</i>
<i>D. Teyssier</i>	<i>M. Leyton</i>		<i>M. Shapkin</i>	<i>Yu. Chugreev</i> <i>K. Modestov</i>
<i>R. Stamen</i>	<i>L. Gladilin</i>		<i>A. Damanik</i>	<i>A. Dolgov</i>
<i>V. Golubev</i>	<i>K. Morita</i>		<i>A. Konaka</i>	<i>Panel discussion</i>
<i>D. Kazakov</i>	<i>Yu. Kolomensky</i>		<i>M. Ikeda</i>	<i>V. Petrov</i>
<i>L. Pescatore</i>	<i>W. Chen</i>		<i>T. Omura</i>	
<i>Yu. Kolomensky</i>	<i>Yu. Nefedov</i>		<i>S. Zemskova</i>	
<i>S. Mueller</i>	<i>E. Isupov</i>		<i>A. Shaikiev</i>	
<i>O. Markin</i>	<i>A. Sarantsev</i>		<i>F. Jediny</i>	
<i>M. Titov</i>	<i>Panel discussion</i>		<i>E. Shirokov</i>	
<i>T. Karavicheva</i>			<i>O. Kalekin</i>	
<i>S. Ivanov</i>			<i>S. Palomares-Ruiz</i>	
			<i>B. Roskovec</i>	
		<i>Table Tennis</i>	<i>Panel discussion</i>	
		<i>Semi-final</i>		
<i>Table Tennis-1</i>	<i>Table Tennis-2</i>	<i>Final</i>		
<i>Welcome drink</i>		<i>Workshop</i> <i>Dinner</i>		<i>Farewell Drink</i>

Registration

Monday, June 23 - IHEP, Theoretical Division 9:00-10:30

See information desk for details and changes

This Workshop is partly supported by

- the Russian Foundation for Basic Research, grant no. 14-02-06037-г
- Institute for High Energy Physics, Protvino
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Monday, June 23

Morning session 9:00-12:50

Chairperson: *Vladimir Petrov*

- 9:00 **Alexandre Zaitsev** (IHEP, Protvino, Russia)
"Opening address"
- 9:05 **Vladimir Petrov** (IHEP, Protvino, Russia)
"Introductory address from the OC"
- 9:10 **Dezso Horvath** (Wigner RPC, Budapest, Hungary)
"Twenty years of searching for the Higgs boson: exclusion at LEP, discovery at LHC"
- 9:45 **Lydia Roos** (LPNHE CNRS, Paris, France)
"The Higgs boson in ATLAS and CMS"
- 10:20 **Milos Dordevic** (CERN, Geneva, Switzerland)
"Standard Model physics results from ATLAS and CMS"

10:55-11:15 Coffee break

Chairperson: *Laszlo Jenkovsky*

- 11:15 **TBD** (TBD)
"Top quark physics in ATLAS"
- 11:40 **Igor Myagkov** (MSU, Moscow, Russia)
"Top quark physics in CMS"

12:05-12:50 Panel discussion on Higgs boson and related topics

Moderator: *Dmitri Kazakov*

12:50-13:50 Lunch

Afternoon session 13:50-19:10

Chairperson: *Yury Khokhlov*

- 13:50 **Pedrame Bargassa** (LIP, Lisbon, Portugal)
"Supersymmetry searches at CMS"
- 14:15 **Daniel Teyssier** (RWTH, Aachen, Germany)
"Exotica searches in CMS"
- 14:40 **Rainer Stamen** (Heidelberg university, Germany)
"SUSY and exotica searches in ATLAS"

15:05-15:25 Coffee break

Chairperson: *Alexey Myagkov*

- 15:25 **Vladimir Golubev** (BINP, Novosibirsk, Russia)
"Hadronic cross section and implications for the muon $g-2$ "
- 15:50 **Dmitri Kazakov** (JINR, Dubna, Russia)
"Constraints on supersymmetry using LHC data"
- 16:15 **Luca Pescatore** (University of Birmingham, UK/CERN, Geneva, Switzerland)
"Rare decays of b - and c -hadrons at LHCb"
- 16:40 **Yury Kolomensky** (UC Berkeley, USA)
"Searches for low mass new physics: CP-odd Higgs and dark photons"

17:05-17:25 Coffee break

Chairperson: *Dezso Horvath*

- 17:25 **Sarah Mueller** (MPI NP, Heidelberg, Germany)
"Electroweak processes in laser-boosted lepton collisions"
- 17:50 **Oleg Markin** (ITEP, Moscow, Russia)
"Backgrounds and calorimetry at future linear colliders"
- 18:15 **Maxim Titov** (CEA/IRFU, Saclay, France)
"ILC project"
- 18:50 **Tatiana Karavicheva** (INR, Moscow, Russia)
"ALICE fast interaction trigger detector for the future"
- 19:10 **Sergei Ivanov** (IHEP, Protvino, Russia)
"IHEP: status and prospects"
- 19:30-20:10 Workshop Table Tennis Championship. 1st round
- 20:10-21:10 Welcome Party

Tuesday, June 24

Morning session 9:00-13:25

Chairperson: *Anton Godizov*

- 9:00 **Jan Kaspar** (CERN, Geneva, Switzerland)
"TOTEM results on elastic scattering and total cross-section"
9:25 **Antonio Sidoti** (INFN, Roma, Italy)
"Diffractive scattering in ATLAS"
9:50 **Andrei Sobol** (IHEP, Protvino, Russia)
"CMS results on inelastic and diffractive cross sections"

10:15-10:35 Coffee break

Chairperson: *Sergey Troshin*

- 10:35 **Sergei Evdokimov** (IHEP, Protvino, Russia)
"Diffraction physics with ALICE at the LHC"
11:00 **Johan Blouw** (MPI, Heidelberg, Germany)
"Exclusive and inclusive quarkonia production in the forward acceptance at the LHC"
11:25 **Alice Valkarova** (IPNP, Charles university, Prague, Czech Republic)
"Low-x and diffraction at HERA"
11:50 **Laszlo Jenkovsky** (BITP, Kiev, Ukraine)
"Vector meson production in ultra-peripheral pp, pA and aa collisions at the LHC"
12:15 **Igor Dremin** (LPI RAS, Moscow, Russia)
"The interaction region of high energy protons"

12:40-13:25 Panel discussion on Diffraction

Moderator: *Vladimir Petrov*

13:25-14:25 Lunch

Afternoon session 14:25-19:50

Chairperson: *Valery Kiselev*

- 14:25 **Michael Leyton** (University of Texas at Dallas, USA)
"QCD results from ATLAS and CMS"
14:55 **Leonid Gladilin** (MSU, Moscow, Russia)
"Perturbative QCD at HERA"
15:20 **Kenji Morita** (FIAS, Frankfurt, Germany)
"Probing the QCD phase boundary by fluctuations of conserved charges"

15:45-16:05 Coffee break

Chairperson: *Alexey Novoselov*

- 16:05 **Yury Kolomensky** (UC Berkeley, USA)
"Recent BaBar highlights on B-meson physics"
16:30 **Wei Chen** (University of Saskatchewan, Saskatoon, Canada)
"Heavy tetraquark states and quarkonium hybrids"
16:55 **Yury Nefedov** (JINR, Dubna, Russia)
"The BESIII experiment"

17:20-17:40 Coffee break

Chairperson: *Vladimir Obraztsov*

- 17:40 **Evgeny Isupov** (SINP MSU, Moscow, Russia)
"New results of nucleon resonances studies in photo and electroproduction of charged pion pairs in CLAS detector"
18:05 **Andrei Sarantsev** (PNPI, Gatchina, Russia)
"Baryon spectroscopy from analysis of meson photoproduction data"

18:30-19:10 Panel discussion on HQ and hadron spectroscopy

Moderator: *Yury Khokhlov*

19:20-19:50 Workshop Table Tennis Championship. 2nd round

Wednesday, June 25

9:00-13:00 Excursion to the Oka-terrace state nature biosphere reserve

13:30-14:30 Lunch

Afternoon session 15:00-16:10

Chairperson: *Wei Chen*

15:00 **Angel Sanz (CSIC, Madrid, Spain)**

“How far can a pragmatist go into quantum theory? A critical view of our current understanding of quantum phenomena”

15:40 **Vladimir Petrov (IHEP, Protvino, Russia)**

“Half a century with quarks”

16:30-17:30 **Workshop Table Tennis Championship. Semi-final**

17:30-18:00 **Workshop Table Tennis Championship. Final**

18:30-21:00 Conference dinner

Thursday , June 26

Morning session 9:00-13:15

Chairperson: *Vassily Mochalov*

- 9:20 **Yury Kharlov** (IHEP, Protvino, Russia)
"Results from ALICE"
- 9:45 **Stepan Obraztsov** (MSU, Moscow, Russia)
"Phenomena in heavy ion collisions"
- 10:10 **Dmitri Peresunko** (NRC KI, Moscow, Russia)
"Neutral mesons and photons in pp and Pb-Pb collisions"
- 10:30 **Johan Blouw** (MPI, Heidelberg, Germany)
"Heavy ion physics at LHCb"
- 10:55 **Vitaly Okorokov** (MEPhI, Moscow, Russia)
"Strongly interacting matter at RHIC: experimental highlights"
- 11:20-11:40 Coffee break

Chairperson: *Sergey Sadovsky*

- 11:40 **Vladimir Bumazhnov** (IHEP, Protvino, Russia)
"PHENIX results"
- 12:05 **Xiao-Ming Xu** (Shanghai university, China People's Republic)
"Early thermalization of quark-gluon matter in heavy ion collisions"
- 12:30-13:15 Panel discussion on heavy ions Moderator: *Sergey Sadovsky*

13:15-14:15 Lunch
Afternoon session 14:15-20:40

Chairperson: *Vladimir Petrov*

- 14:15 **Luca Pescatore** (University of Birmingham, UK/CERN, Geneva, Switzerland)
"CP violation measurements at LHCb"
- 14:40 **Mikhail Shapkin** (IHEP, Protvino, Russia)
"Physics of BELLE experiment"
- 15:05 **Asan Damanik** (Sanata Dharma University, Yogyakarta, Indonesia)
"Nonzero θ_{13} and CP Violation from Broken μ - τ Symmetry"
- 15:30-15:50 Coffee break

Chairperson: *Henning Gast*

- 15:50 **Akira Konaka** (TRIUMF, Vancouver, Canada)
"Hyper-Kamiokande project"
- 16:15 **Motoyasu Ikeda** (Kyoto University, Japan)
"Detection of supernova neutrinos in Super-Kamiokande"
- 16:35 **Takuya Omura** (Nagoya University, Japan)
"Recent results from OPERA: search for $\nu_{\mu} \rightarrow \nu_{\tau}$ oscillations"
- 16:55 **Svetlana Zemskova** (JINR, Dubna, Russia)
"Search for $\nu_{\mu} \rightarrow \nu_e$ oscillations with the OPERA experiment"
- 17:15 **Artur Shaikiev** (INR RAS, Moscow, Russia)
"Search for heavy neutrino in the $K^+ \rightarrow \mu^+ \nu_H$ decay"
- 17:35-17:55 Coffee break

Chairperson: *Anatoly Sokolov*

- 17:55 **Filip Jediny** (CTU, Prague, Czech Republic)
"NOvA neutrino experiment"
- 18:15 **Evgeny Shirokov** (MSU, Moscow, Russia)
"ANTARES results"
- 18:35 **Oleg Kalekin** (University of Erlangen, Nurnberg, Germany)
"KM3NeT project"
- 18:55 **Sergio Palomares-Ruiz** (IFIC, Paterna, Spain)
"On the flavor composition of the high energy neutrino events in IceCube"
- 19:15 **Bedrich Roskovec** (IPNP, Charles University, Prague, Czech Republic)
"The recent results of the Daya Bay Experiment"
- 19:35-20:20 Panel discussion on Neutrino physics Moderator: *Vladimir Obraztsov*

Friday, June 27

Morning session 9:30-12:15

Chairperson: *Bedrich Roskovec*

- 9:30 **Fernando Arqueros** (*Complutense University of Madrid, Spain*)
"The Pierre Auger Observatory: latest results and future prospects"
- 9:55 **Joao Espadanal** (*LIP, Lisbon, Portugal*)
"Measurement of the cosmic ray energy spectrum and of the muon content of EAS with the Pierre Auger Observatory"
- 10:20 **Henning Gast** (*RWTH, Aachen, Germany*)
"Cosmic-ray research with AMS-02 on the International Space Station"

10:45-11:05 Coffee break

- 11:05 **Vladimir Solovov** (*University of Coimbra/LIP, Lisbon, Portugal*)
"First Results from LUX Dark Matter Experiment"

11:30-12:15 Panel discussion on cosmic rays

Moderator: *Alexandre Kisselev*

12:30-13:30 Lunch

Afternoon session 13:30-17:55

Chairperson: *Yuri Zinoviev*

- 13:30 **Yury Baryshev** (*AI SPSU, St.-Petersburg, Russia*)
"Paradoxes of cosmological physics in the beginning of 21-st century"
- 14:05 **Alex Blin** (*University of Coimbra, Portugal*)
"Average thermal evolution of the universe"
- 14:30 **Luca Marzola** (*University of Tartu, Estonia*)
"Strong thermal Leptogenesis: an exploded view of the low energy neutrino parameters in the $SO(10)$ -inspired model"

14:55-15:15 Coffee break

Chairperson: *Vladimir Soloviev*

- 15:15 **Vladimir Sokolov** (*SAO RAS, St.-Petersburg, Russia*)
"Gravodynamics (scalar-tensor gravitation) and the observed discrete mass spectrum of compact stellar remnants in close binary systems"
- 15:50 **Yury Chugreev** (*BITP MSU, Moscow, Russia*),
"Cosmological consequences of the relativistic theory of gravitation"
- 16:25 **Alexander Dolgov** (*University of Ferrara, Italy/ITEP, Moscow, Russia*)
"B-mode in CMB polarization. What's that and why it is interesting"

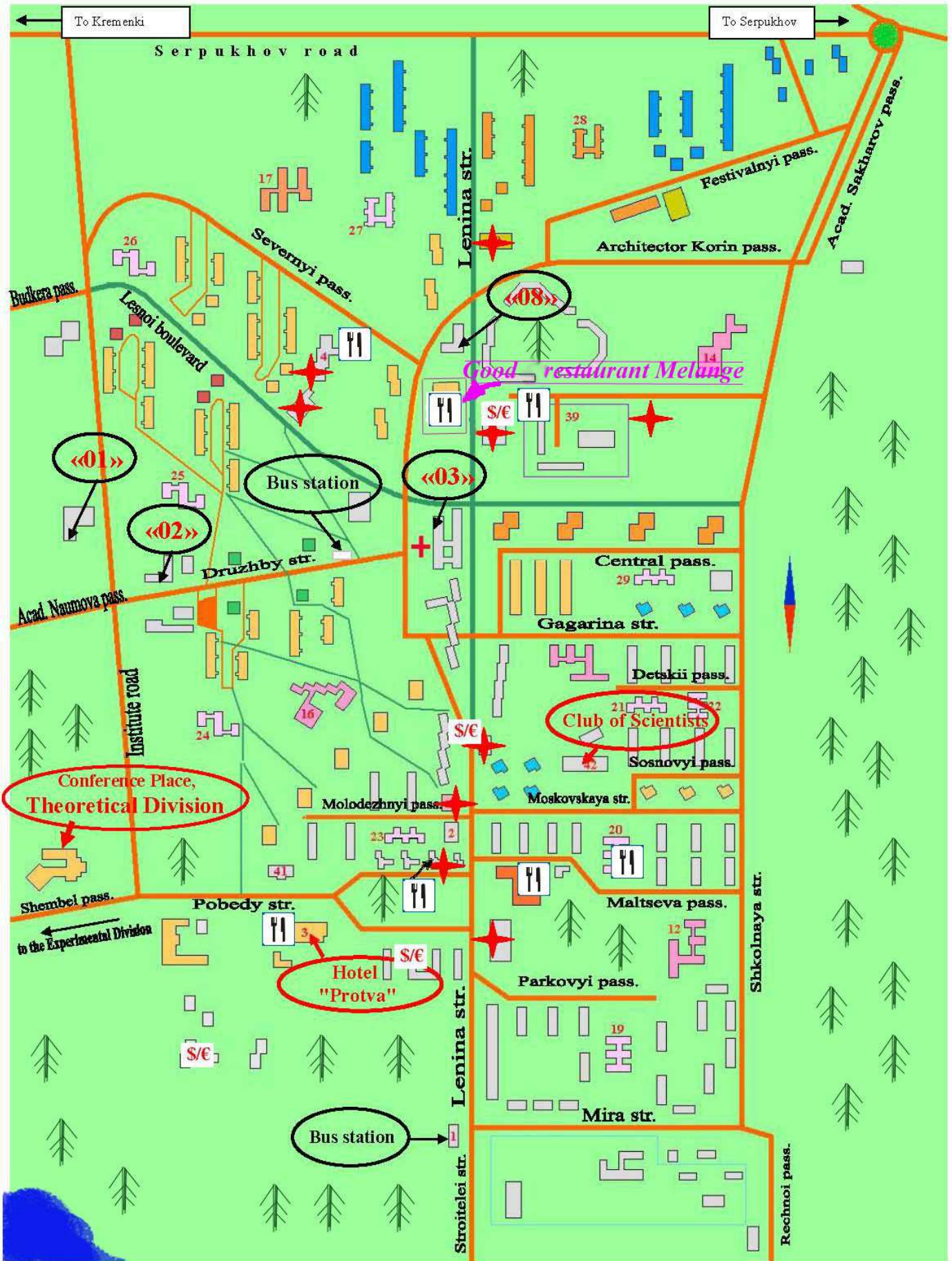
17:00-17:55 Panel discussion on cosmology

Moderator: *Valery Kiselev*

- 17:55-18:05 **Vladimir Petrov** (*IHEP, Protvino, Russia*)
"Closing address"
- 18:05-19:30 Farewell Party

List of participants

Arqueros Fernando	Complutense Univ. of Madrid	Pescatore Luca	CERN, Geneva
Bargassa Pedrame	LIP, Lisbon	Roos Lydia	LPNHE, Paris
Baryshev Yuri	AI SPSU, St.-Petersburg	Roskovec Bedrich	IPNP, Charles University, Prague
Blin Alex H.	Univ. of Coimbra	Sanz Angel	CSIC, Madrid
Blouw Johan	MPI, Heidelberg	Sarantsev Andrey	PNPI, Gatchina
Bumazhnov Vladimir	IHEP, Protvino	Shaikhev Artur	INR RAS, Moscow
Chen Wei	Univ. of Saskatchewan, Saskatoon	Shapkin Mikhail	IHEP, Protvino
Chugreev Yury	ITPM MSU, Moscow	Shirokov Evgeny	MSU, Moscow
Damanik Asan	Sanata Dharma Univ., Yogyakarta	Sidoti Antonio	INFN, Roma
Dremn Igor	LPI, Moscow	Sobol Andrei	IHEP, Protvino
Dolgov Alexander	Univ. of Ferrara/ITEP, Moscow	Sokolov Vladimir	SAO RAS, St.-Petersburg
Dordevic Milos	CERN, Geneva	Solovov Vladimir	Univ. of Coimbra, LIP
Espadanal Joao	LIP, Lisbon	Stamen Rainer	Heidelberg University
Evdokimov Sergei	IHEP, Protvino	Teyssier Daniel	RWTH, Aachen
Gast Henning	RWTH, Aachen	Titov Maxim	CEA/IRFU, Saclay
Gladilin Leonid	SINP MSU, Moscow	Valkarova Alice	IPNP, Charles Univ., Prague
Golubev Vladimir	BINP, Novosibirsk	Xu Xiao-Ming	Shanghai Univ.
Horvath Dezso	Wigner RCP, Budapest	Zemskova Svetlana	JINR, Dubna
Ikedo Motoyasu	Kamioka Obs., Univ. of Tokyo	Pirogov Yuri	IHEP, Protvino
Isupov Evgeny	SINP MSU, Moscow	Denisov Sergei	IHEP, Protvino
Jediny Filip	CTU, Prague	Stoyanova Dina	IHEP, Protvino
Jenkovszky Laszlo	BITP, Kiev	Godizov Anton	IHEP, Protvino
Kalekin Oleg	Univ. of Erlangen-Nurnberg	Ivanov Sergey	IHEP, Protvino
Kaspar Jan	CERN, Geneva	Khokhlov Yury	IHEP, Protvino
Karavicheva Tatiana	INR RAS, Moscow	Kiselev Valery	IHEP, Protvino
Kazakov Dmitri	JINR, Dubna	Kisselev Alexander	IHEP, Protvino
Kharlov Yury	IHEP, Protvino	Likhoded Anatoly	IHEP, Protvino
Konaka Akira	TRIUMF, Vancouver	Mochalov Vassily	IHEP, Protvino
Kolomensky Yury	UC Berkeley, Walnut Creek	Myagkov Alexey	IHEP, Protvino
Leyton Michael	Univ. of Texas/CERN, Geneva	Novoselov Alexey	IHEP, Protvino
Markin Oleg	ITEP, Moscow	Obraztsov Vladimir	IHEP, Protvino
Marzola Luca	Univ. of Tartu	Petrov Vladimir	IHEP, Protvino
Modestov Konstantin	MSU, Moscow	Ryabov Yury	IHEP, Protvino
Morita Kenji	FIAS, Frankfurt	Ryutin Roman	IHEP, Protvino
Mueller Sarah	MPI NP, Heidelberg	Sadovsky Sergei	IHEP, Protvino
Myagkov Igor	SINP MSU, Moscow	Sokolov Anatoly	IHEP, Protvino
Nefedov Yury	JINR, Dubna	Soloviev Vladimir	IHEP, Protvino
Obraztsov Stepan	SINP MSU, Moscow	Troshin Sergei	IHEP, Protvino
Okorokov Vitaly	MEPhY, Moscow	Tyurin Nikolai	IHEP, Protvino
Omura Takuya	Nagoya Univ.	Zaitsev Alexander	IHEP, Protvino
Palomares-Ruiz Sergio	IFIC, Paterna	Zinoviev Yuri	IHEP, Protvino
Peresunko Dmitri	NRC KI, Moscow		



Supermarkets and shops



Exchange



Restaurants, cafés