

Report on HISS Dubna  
“Lattice QCD, Hadron Structure, and Hadronic Matter”  
JINR, Dubna, Russia, September 5.-17., 2011



Bogoliubov Laboratory of Theoretical Physics, Joint Institute for Nuclear Research  
Dubna International Advanced School of Theoretical Physics  
Helmholtz International Summer School

# Lattice QCD, Hadron Structure and Hadronic Matter

Dubna, Russia, September 5 - 17, 2011

Introduction to Lattice Gauge Theories  
Hadron structure and spectroscopy  
Nonzero temperature and baryon number density  
Heavy quark physics  
Beyond the Standard Model  
Strong magnetic fields  
Simulation algorithms and analysis techniques



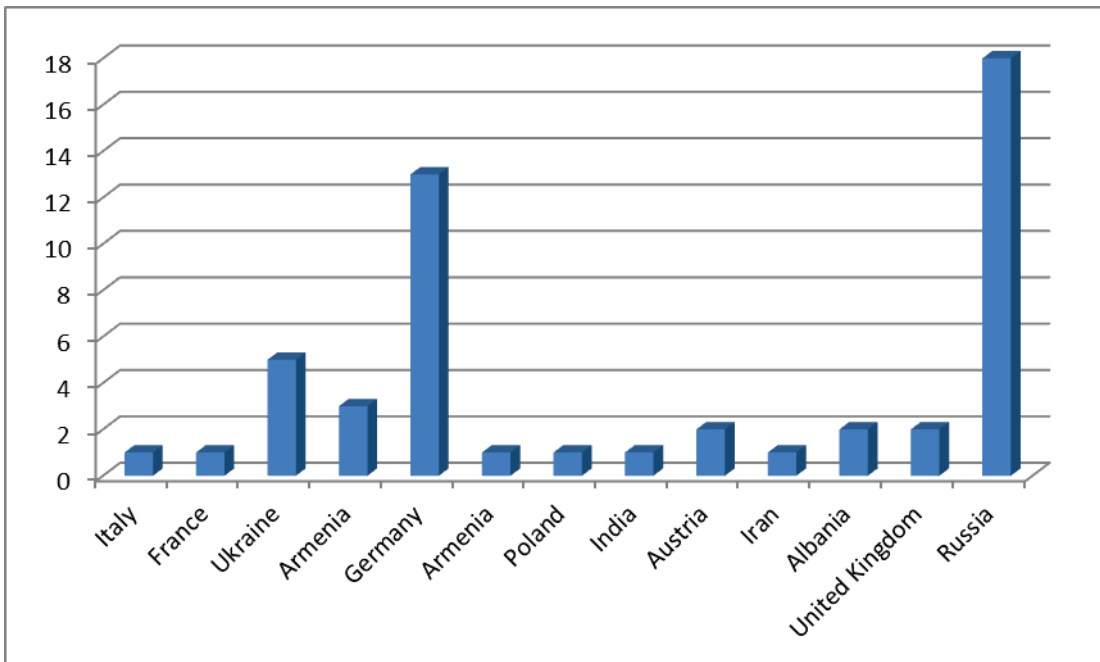
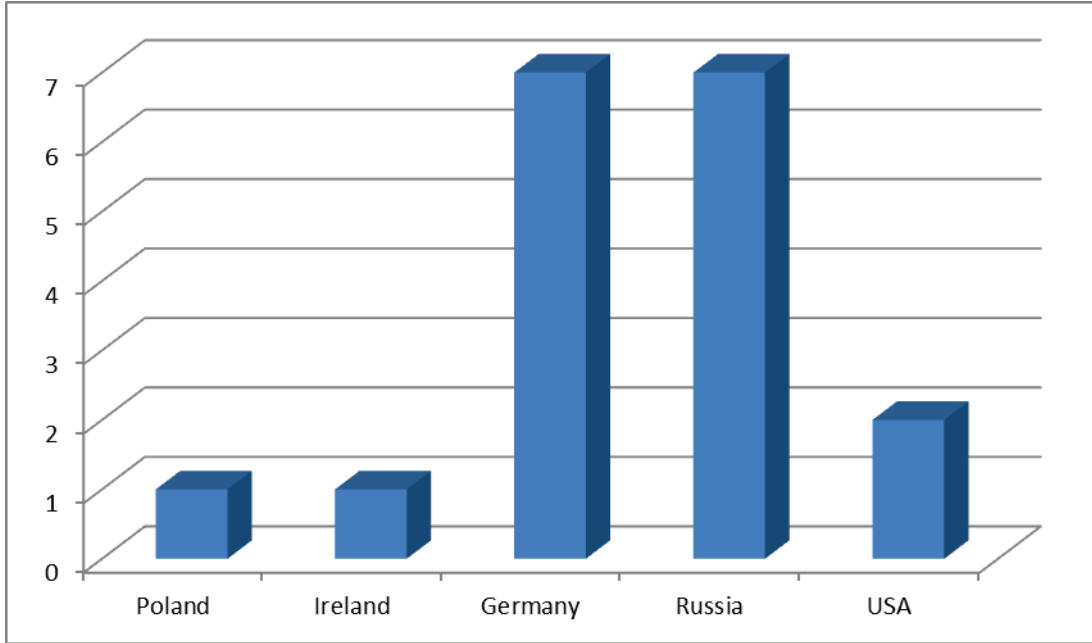
## LECTURERS:

D. Blaschke (ITP, Uni. of Wroclaw & BLTP, JINR)  
S. Catterall (Syracuse U.)  
M. Goeckeler (ITP, Regensburg U.)  
M. Mueller-Preussker (Humboldt U., Berlin)  
K. Jansen (NIC, DESY, Zeuthen)  
F. Karsch (Bielefeld U. & BNL)  
D. I. Kazakov (BLTP, JINR)  
M. Peardon (Trinity College, Dublin)  
P. Petreczky (BNL)  
M. Polikarpov (ITEP, Moscow)  
M. Polyakov (S.-Pb. Nucl. Phys. Inst., Gatchina & Bochum U.)  
A.V.Radyushkin (JLAB, USA & JINR, Dubna, Russia)  
C. Schmidt (Frankfurt U. & GSI, Darmschtadt)  
R. Sommer (NIC, DESY, Zeuthen)  
A. S. Sorin (BLTP, JINR)  
O. V. Teryaev (BLTP, JINR)  
C. Urbach (Bonn U.)  
V. I. Zakharov (ITEP, Moscow)

## ORGANIZERS:

R. Sommer (NIC, DESY, Zeuthen)  
A. Sorin (JINR, Dubna)

CONTACTS: Bogoliubov Laboratory of Theoretical Physics, Joint Institute for Nuclear Research  
141980 Dubna, Russia; Phone: (+749621) 65084; e-mail: diastp@theor.jinr.ru  
<http://theor.jinr.ru/~diastp/summer11>



DIAS-TH: Dubna International Advanced School of Theoretical Physics

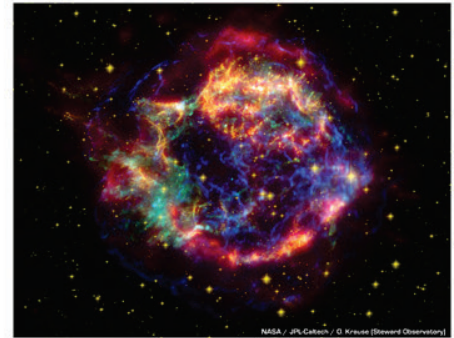
Helmholtz International Summer School

# "NUCLEAR THEORY AND ASTROPHYSICAL APPLICATIONS"

Bogoliubov Laboratory of Theoretical Physics  
JOINT INSTITUTE FOR NUCLEAR RESEARCH  
Dubna, Russia, July 24 - August 2, 2011

## TOPICS:

- terrestrial experiments for astrophysics,
- clusters and features of their structure and reactions,
- nuclear synthesis in stars,
- superfluidity in nuclei and neutron stars,
- neutrino interactions with nuclei / nuclear matter and supernovae,
- condensation and phase transitions in dense matter.



## LECTURERS:

D. Bemmerer (Dresden)

R. Jolos (JINR)

E. Litvinova (GSI)

D. Nadyozhin (Moscow)

G. Roepke (Rostock)

F. Simkovic (JINR/Bratislava)

A. Vdovin (JINR)

H. Grigorian (Yerevan)

T. Klahn (Wroclaw)

J. Margueron (Orsay)

R. Reifarh (Frankfurt)

E. Saperstein (Moscow)

K. Sonnabend (Darmstadt)

D. Voskresensky (GSI/MEPhI)

H.-W. Hammer (Bonn)

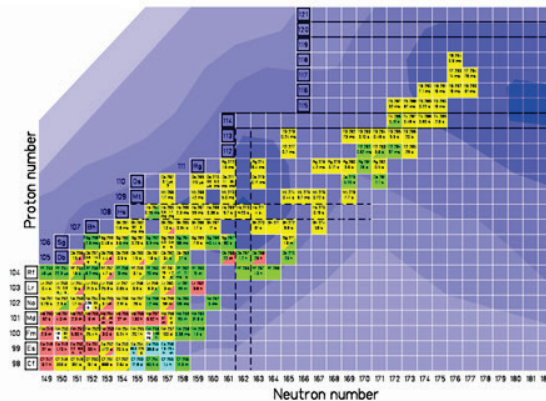
H. Lenske (Giessen)

Jie Meng (Beijing)

F. Roepke (Garching)

H. Schulz (Dresden)

S. Typel (GSI)



## ORGANIZERS:

K. Langanke (GSI, Darmstadt),

V. Voronov (JINR, Dubna).

## CONTACTS:

Prof. V. Voronov

Bogoliubov Laboratory of Theoretical Physics

Joint Institute for Nuclear Research

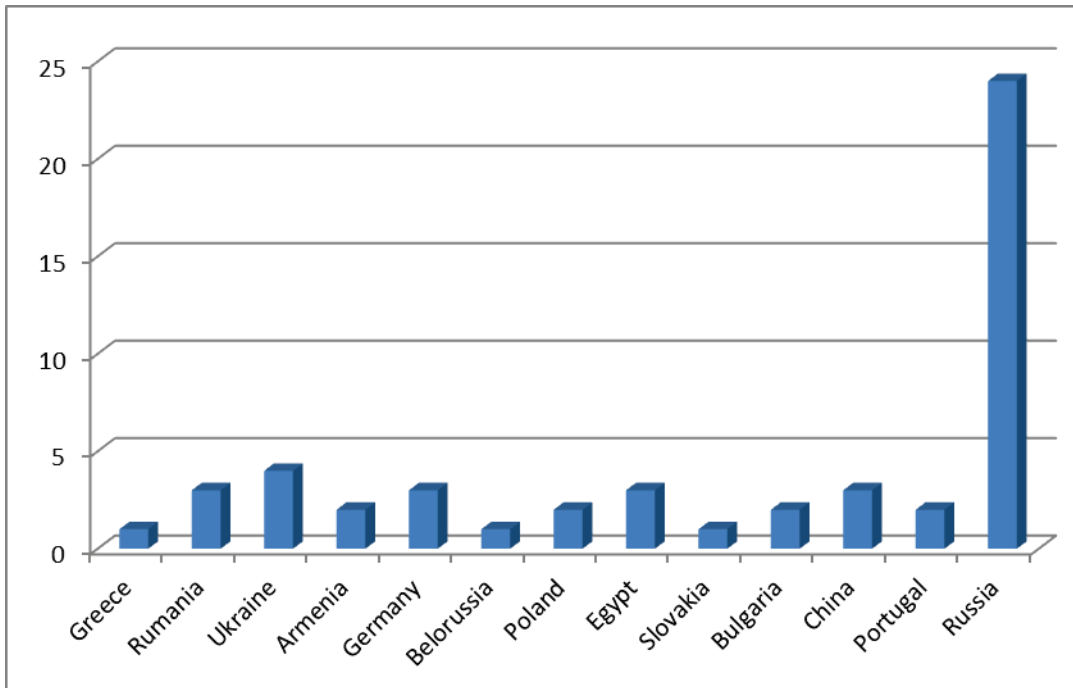
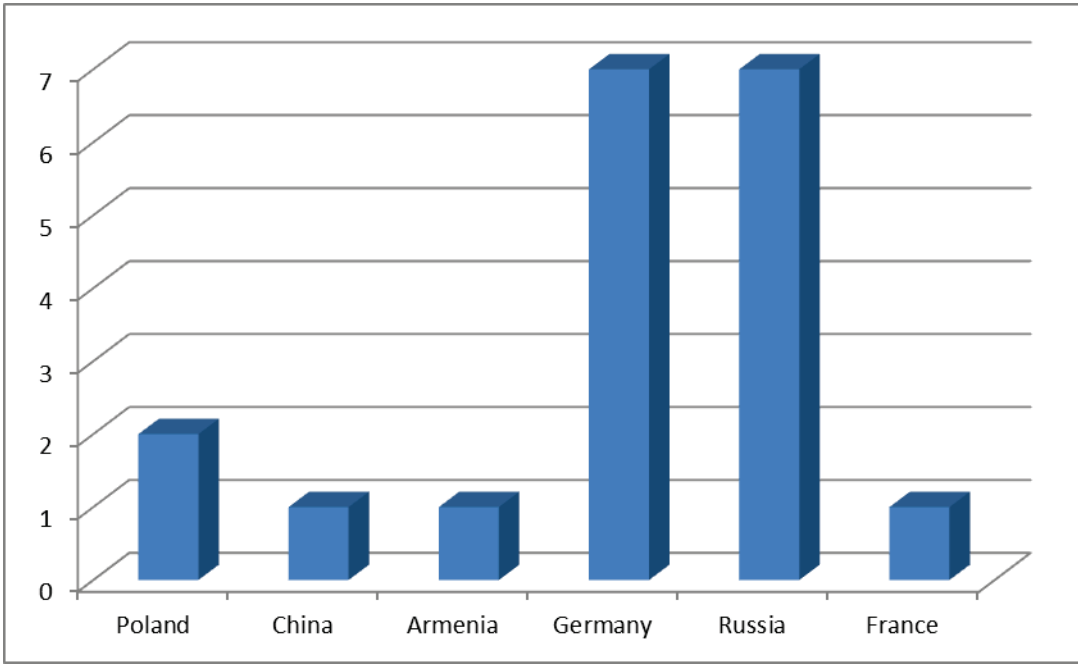
141980, Dubna, Moscow Region, Russia

FAX: +7 49621 65084

E-mail: [ntaa@theor.jinr.ru](mailto:ntaa@theor.jinr.ru)

WWW: <http://theor.jinr.ru/~ntaa/11/>







Helmholtz International Summer School - HISS  
Dubna International Advanced School of Theoretical Physics - DIAS TH

**INTERNATIONAL SCHOOL-WORKSHOP  
“CALCULATIONS FOR MODERN AND FUTURE COLLIDERS”**

*July 23 - August 2, 2012, Dubna, Russia*

**TOPICS**

- Precision theoretical calculations for experiments at LHC and other modern colliders
- Methods of multiloop calculations and resummation
- Computer codes for calculations in high energy physics
- Theoretical predictions beyond the Standard Model
- Physical program of future experiments in high energy physics

**LECTURERS**

T. Hahn (Munich, Germany)  
J. Henn (Princeton, USA)  
F. Jegerlehner (Berlin & Zeuthen, Germany)  
V. Kim (St. Petersburg, Russia)  
S. Moch (Zeuthen, Germany)  
M. Muehlleitner (Karlsruhe, Germany)  
A. Nisati (Rome, Italy)  
G. Passarino (Torino, Italy)  
F. Piccinini (Pavia, Italy)  
S. Riemann (Zeuthen, Germany)

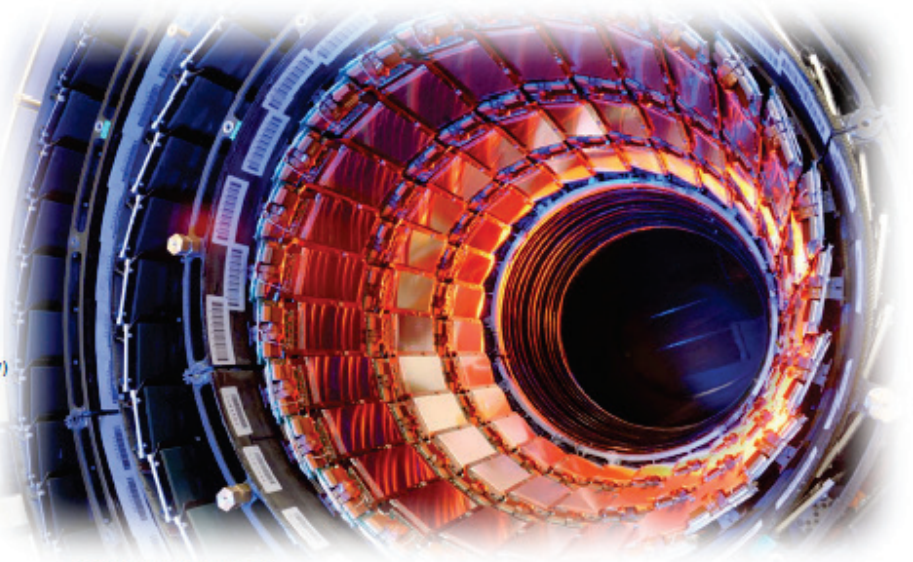
**CONTACTS**

Dr. Andrej Arbuzov, [calc2012@theor.jinr.ru](mailto:calc2012@theor.jinr.ru)  
Visas, accommodation, transportation:  
Olga Matyukhina, [omatyukhina@jinr.ru](mailto:omatyukhina@jinr.ru)

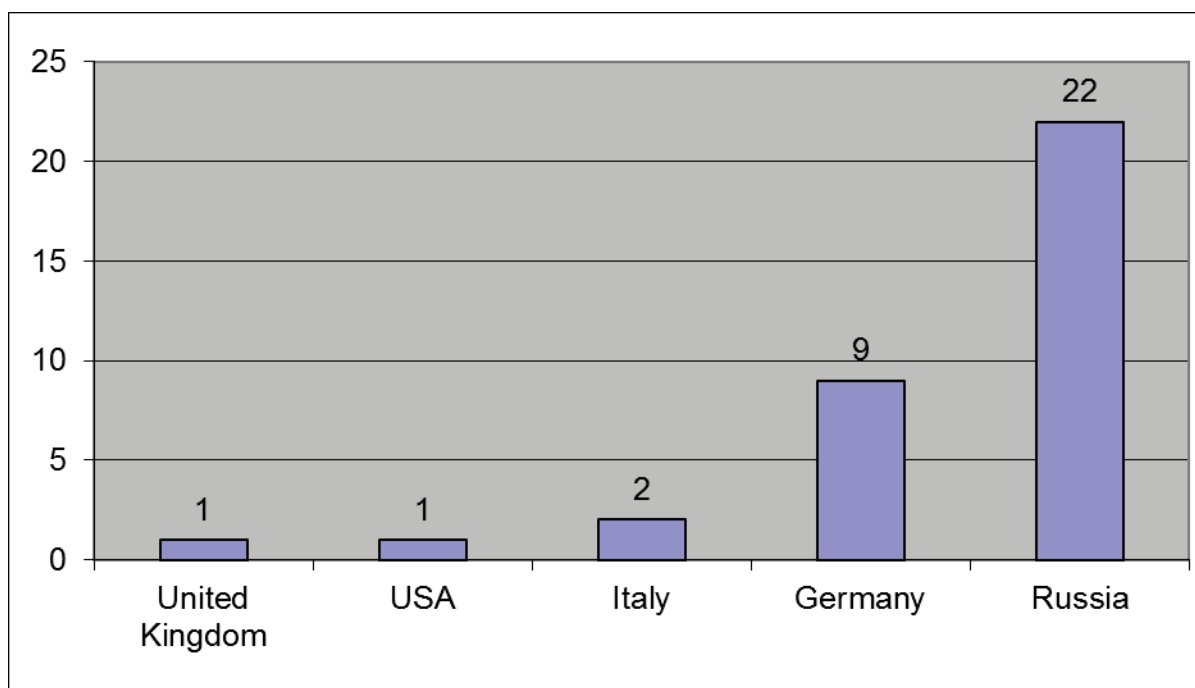
<http://theor.jinr.ru/~calc2012>

**ORGANIZING COMMITTEE**

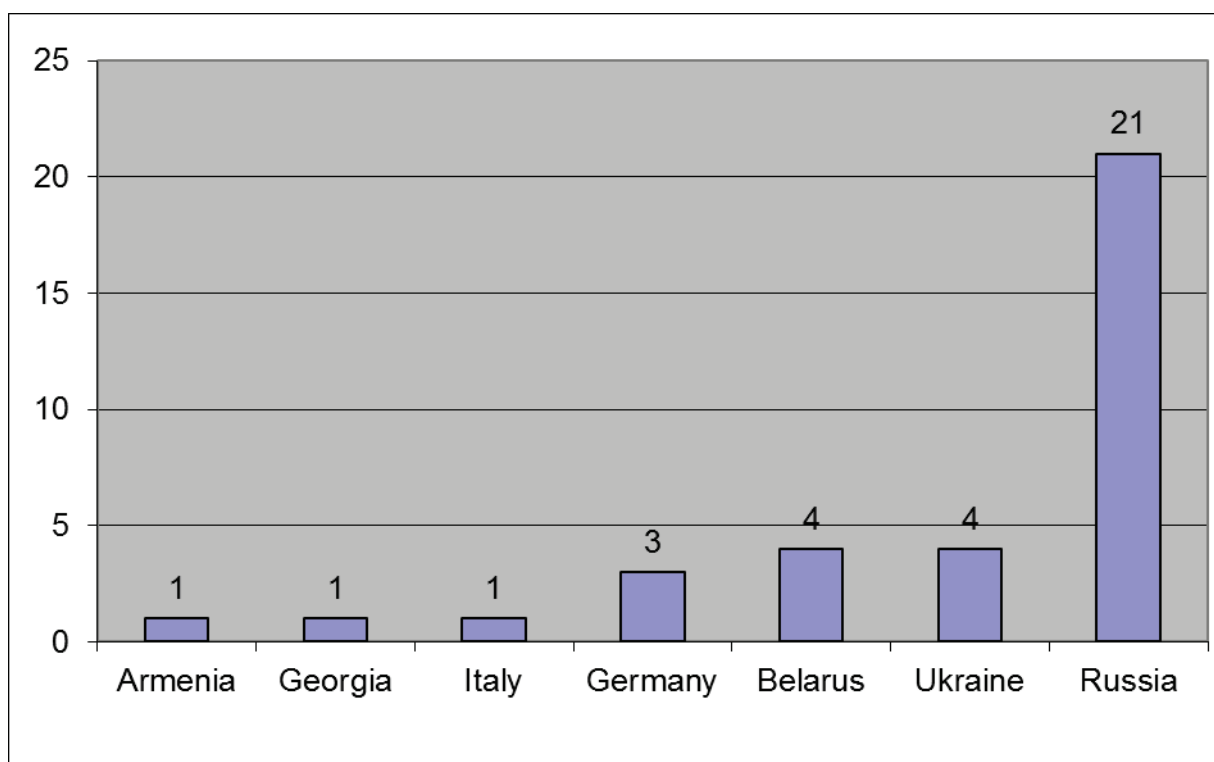
D. Kazakov (JINR) – Chairman, T. Riemann (DESY, Zeuthen) – Co-Chairman, A. Arbuzov (JINR) – Sci Secretary,  
O. Matyukhina (JINR) – Secretary, D. Bardin (JINR), A. Bednyakov (JINR), A. Gladyshev (JINR),  
L. Kalinovskaya (JINR), S. Moch (DESY, Zeuthen), J. Schmeizer (JINR & Uni Rostock), I. Smlimova (JINR)



## LECTURERS



## STUDENTS



DIAS-TH: Dubna International Advanced School for Theoretical Physics

# Helmholtz International Summer School Dense Matter in Heavy Ion Collisions and Astrophysics: Theory and Experiment

Dubna, Russia, August 28 - September 8, 2012

## Topics

- Equation of state & QCD phase transitions
- Transport properties in dense QCD matter
- Hadronization & freeze-out in heavy ion collisions (HIC)
- Astrophysics of compact stars (CS)
- Simulations of dense QCD, HIC and CS
- Experiments and observational programs

## Organisers

H. Stöcker (GSI)  
A. Sorin (JINR)  
D. Blaschke (Wroclaw & JINR)

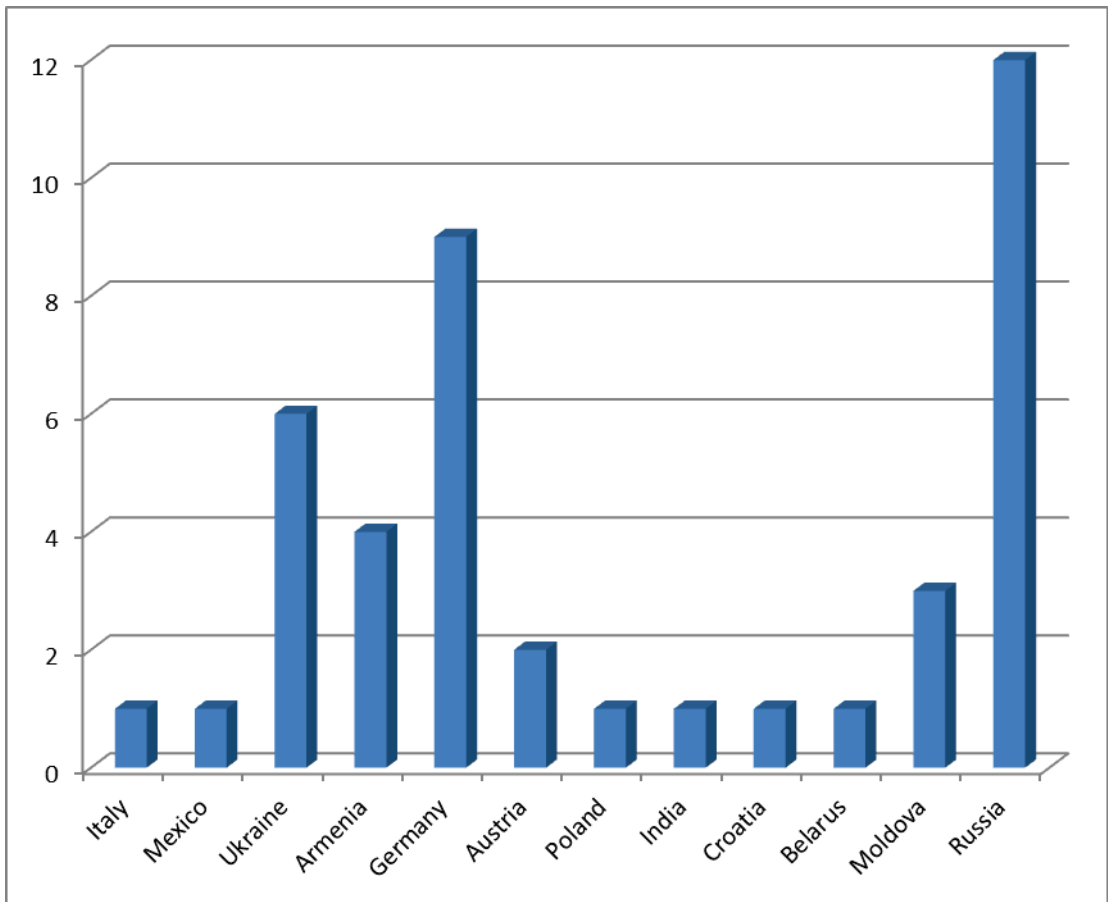
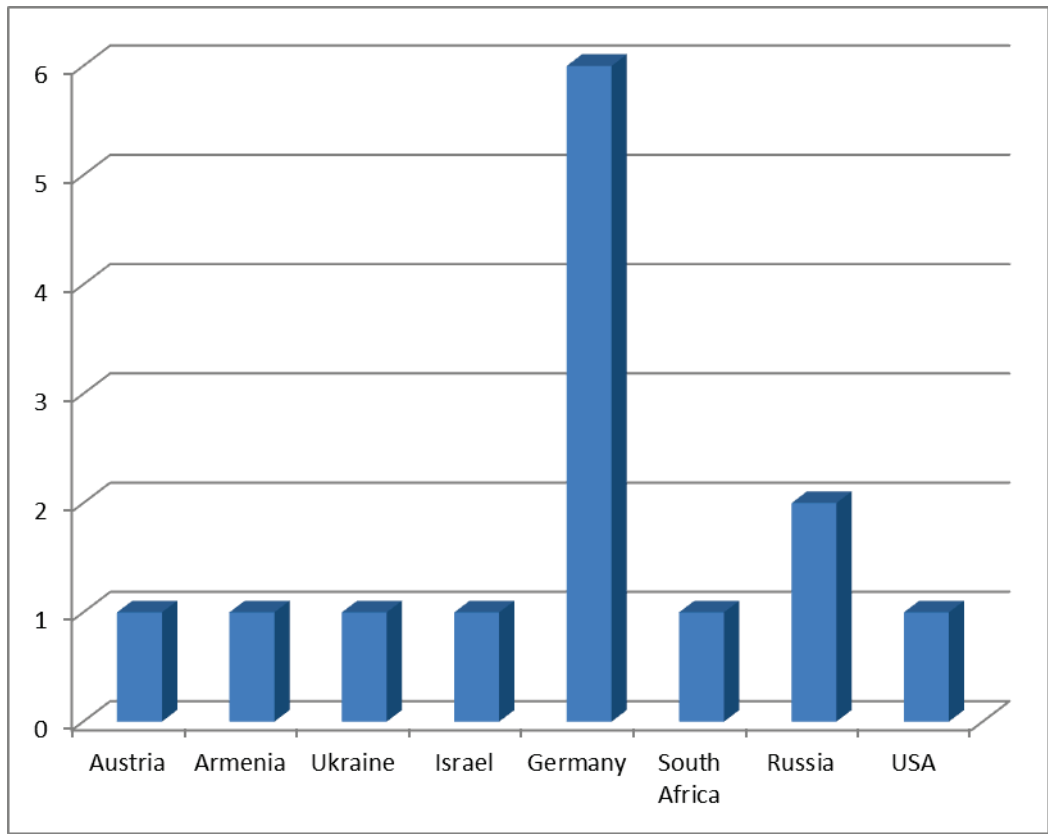
## Local Organisers

V. Zhuravlev (JINR)  
J. Schmelzer (Rostock & JINR)  
A. Khvorostukhin (JINR)  
A. Friesen (JINR)  
V. Nesterenko (JINR)  
V. Novikova (JINR)

## Contact

dm12@theor.jinr.ru  
<http://theor.jinr.ru/~dm12>







*Dubna International Advanced School of Theoretical Physics / DIAS-TH  
Helmholtz International Summer School*

# Physics of Heavy Quarks and Hadrons

*BLTP, JINR, Dubna, Russia*

*July 15- 28, 2013*



## **TOPICS:**

*Flavor physics and CP-violation*

*CKM-matrix*

*b-hadrons and their decays*

*Top quark physics: production and decays*

*Effective theories in heavy quark physics*

*New aspects of Quarkonia and*

*Quarkonia-like states*

*Modelling QCD*

*Co-organizers:*

*A. Ali (DESY)*

*M. A. Ivanov (BLTP JINR)*

*K. Peters (GSI)*

**CONTACT:**

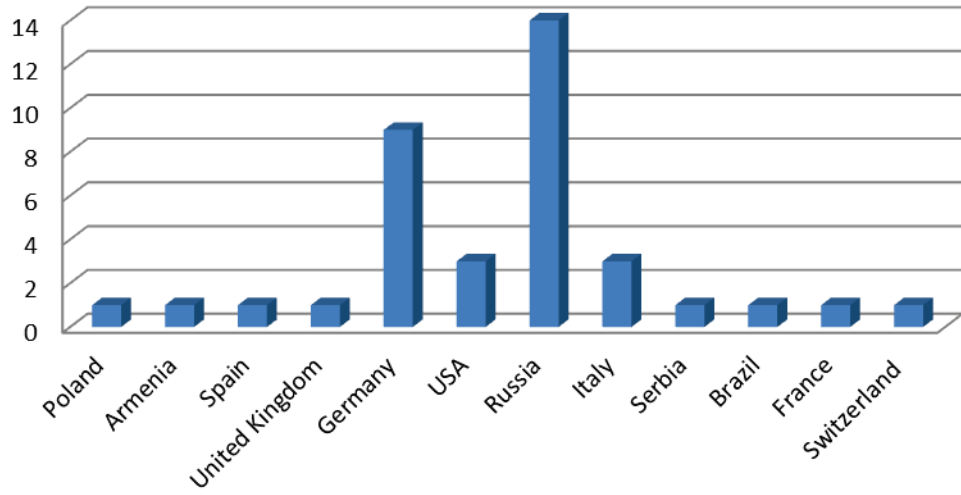
*Prof. Mikhail Ivanov*

*e-mail: [hq2013@theor.jinr.ru](mailto:hq2013@theor.jinr.ru)*

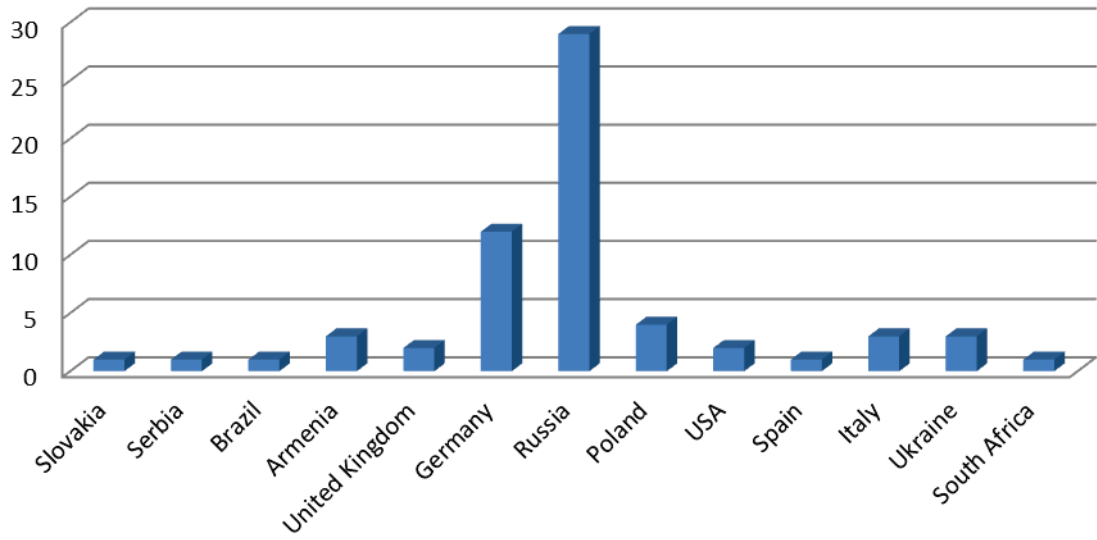
*<http://theor.jinr.ru/~hq2013>*



## Lecturers



## Students



Dubna International Advanced School of Theoretical Physics / DIAS-TH  
Helmholtz International Summer School

September 2-14, 2013

# COSMOLOGY NEW PHYSICS STRINGS NEW PHYSICS

BLTP JINR, Dubna, Russia

Advances in  
supersymmetric gauge theories

Higher Spin Theories

A-theorem and RG flows in various dimensions

Gravity, (super)symmetries, integrability

Status of new physics at LHC

Cosmology and high energy physics

Inflationary cosmology and alternatives

Dark energy and modified gravity

#### Organizers

A. Filippov (JINR, Dubna)  
V. Schomerus (DESY, Hamburg)

#### International Programme Committee

P. Fre (TU, Torino)  
A. Klemm (BU, Bonn)  
V. Rubakov (INR RAS, Moscow)  
A. Starobinsky (ITP RAS, Moscow)  
M. Staudacher (HU, Berlin)  
S. Stieberger (MPI, Munich)  
M. Vasiliev (LPI, Moscow)

#### Contact

e-mail: [diastp@theor.jinr.ru](mailto:diastp@theor.jinr.ru)  
<http://theor.jinr.ru/~diastp/summer13>

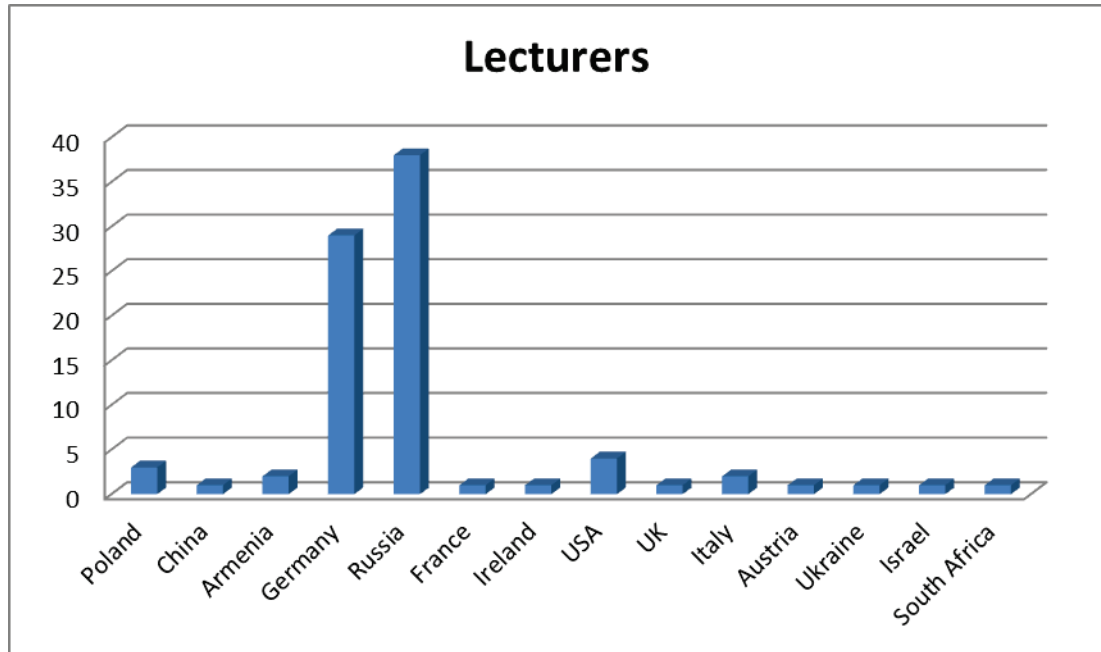
#### Lecturers

E. Boos (SINP MSU, Moscow)  
P. Fre (TU, Torino)  
D. Gorbunov (INR RAS, Moscow)  
H. Johansson (CERN, Geneva)  
Z. Komargodski (WIS, Rehovot & IAS, Princeton)  
A. Mironov (ITEP, Moscow)  
V. Rubakov (INR RAS, Moscow)  
H. Samtleben (ENS, Lyon)  
A. Starobinsky (ITP RAS, Moscow)  
M. Vasiliev (LPI RAS, Moscow)

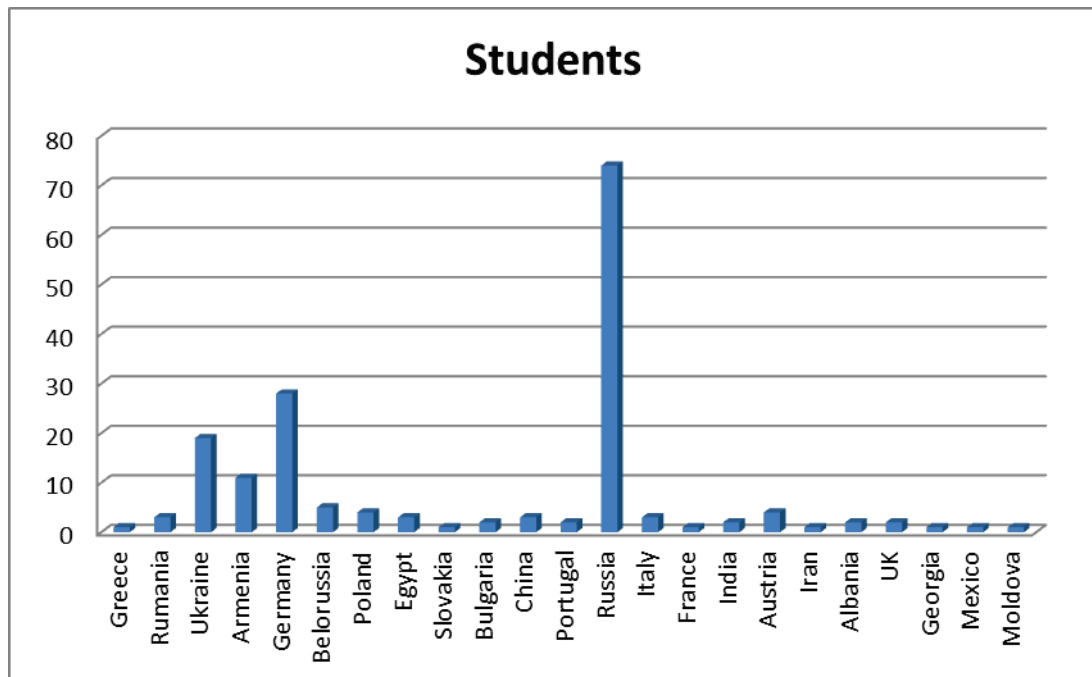


Bogoliubov Laboratory of Theoretical Physics  
Joint Institute for Nuclear Research

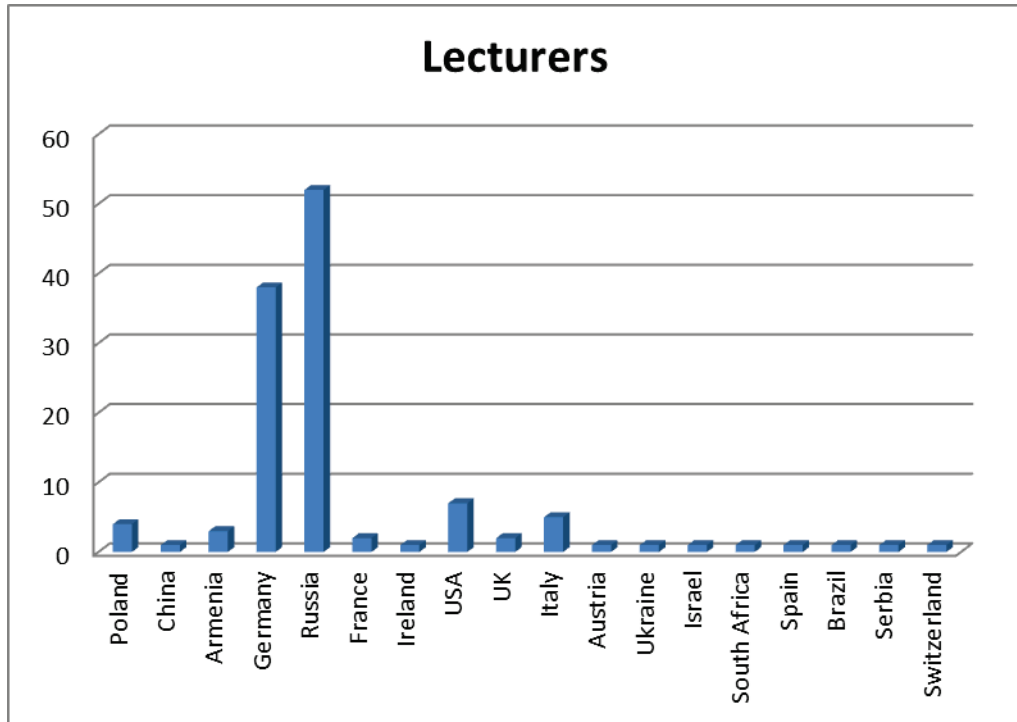
## Lecturers 2011-2012



## Students 2011-2012



## Lecturers 2011-2013 (tentative)



## Students 2011-2013 (tentative)

