

## 1. Fundamental courses

- M. Mueller-Preussker**, Humboldt-Universitaet Berlin (Germany)  
"Introduction to lattice gauge theory I"
- K. Jansen**, NIC, DESY-Zeuthen (Germany)  
"Introduction to lattice gauge theory II"
- A. Sternbeck**, Friedrich-Schiller Universitaet Jena (Germany)  
"Simulations with (hybrid) Monte Carlo algorithms"
- O. Philipsen**, J. W. Goethe Universitaet Frankfurt (Germany)  
"QCD at high temperature and baryonic density"
- C. Hoelbling**, Bergische Universtitaet Wuppertal (Germany)  
"Lattice hadron spectroscopy"
- M. Goeckeler**, Universitaet Regensburg (Germany)  
"Hadron structure from lattice QCD"
- M. Golterman**, San Francisco State University (USA)  
"Chiral perturbation theory"
- A. Walker-Loud**, College of William & Mary and Jefferson Lab. (USA)  
"Connecting QCD to nuclear physics with the lattice"

## 2. Future experiments

- F. Maas**, Helmholtz Institut Mainz (Germany)  
"Low energy precision physics"
- O. Rogachevsky**, VBLHEP, JINR Dubna (Russia)  
"Perspectives for relativistic nuclear physics at the NICA accelerating complex"
- G. Trubnikov**, JINR Dubna (Russia)  
"Accelerator complex NICA: a low energy heavy ion collider"

## 3. Theoretical topical lectures

- V. Bornyakov**, IHEP Serpukhov and ITEP Moscow (Russia)  
"Color-magnetic monopoles in finite teperature QCD"
- G. Endrodi**, Universitaet Regensburg (Germany)  
"External magnetic fields in lattice QCD"
- P. Buividovich**, Universitaet Regensburg (Germany)  
"Anomalous transport phenomena: lattice perspective"
- O. Teryaev**, BLTP, JINR Dubna (Russia)  
"Rotating QCD media"
- D. Smith**, Technische Universitaet Darmstadt (Germany)  
"Graphene as lattice field theory"

## 4. Programming techniques on hybrid architectures

*Lectures and tutorials by the heterogeneous computations group of the JINR Laboratory of Information Technologies (LIT)*

**D. Podgainy**, "Excursion to the Central Information and Computing Complex of LIT"

**O. Streltsova**, "Introductory talk"

**E. Alexandrov**, "Introduction to work on the cluster"

**E. Zemlyanaya**, "OpenMP parallel programming technology"

**T. Sapozhnikova**, "MPI parallel programming technology"

**O. Streltsova/M. Zuev**, "Parallel programming with CUDA"

**A. Ayriyan**, "OpenCL parallel programming technology"

**LIT group**, "Practical training: comparison of GPU, multi-core CPU and IntelXeonPhi coprocessor approaches"