



Hard Probes 2010

4th International Conference
on Hard and Electromagnetic Probes
of High-Energy Nuclear Collisions

October 10-15, 2010
Eilat, Israel

Hard Probes 2010

4th International Conference on Hard and Electromagnetic
Probes of High-Energy Nuclear Collisions

Program

Sunday, 10 October 2010

14:00-16:00 Student Lectures - I

Location: ***Big Blue Hall - A***
Chair: Elena Bratkovskaya

14:00 QCD basics
Charles Gale (McGill University)

15:00 Experimental challenges in the measurement of electromagnetic probes
Tom Hemmick (Stony Brook University)

16:00 *Coffee break*

16:30-18:30 Student Lectures - II

Location: ***Big Blue Hall - A***
Chair: James Dunlop

16:30 Theoretical review of hard probes
Nestor Armesto (University of Santiago de Compostela)

17:30 Experimental review of hard probes
John Harris (Yale University)

19:00-21:00 Welcome Reception

Location: ***Pool Lawn floor "L"***

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Monday, 11 October 2010

09:00-10:40 Plenary 1A

Location: **Big Blue Hall – A**

Chair: Dmitri Kharzeev

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|-------|--|
| 09:00 | Welcome
Itzhak Tserruya (Weizmann Institute of Science, Rehovot) |
| 09:10 | ALICE results from p+p collisions at the LHC
Karel Safarik (CERN) |
| 09:40 | ATLAS results from p+p collisions at the LHC
Attilio Andreatza (INFN, Milano) |
| 10:10 | CMS results from p+p collisions at the LHC
Hermine K. Woehri (LIP, Lisbon) |
| 10:40 | <i>Coffee break</i> |
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11:10-12:40 Plenary 1B

Location: **Big Blue Hall - A**

Chair: Xin-Nian Wang

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|-------|--|
| 11:10 | Jets reconstruction – theory
Gregory Soyez (CEA, Saclay) |
| 11:40 | Qhat and energy loss
Simon Caron-Huot (IAS, Princeton) |
| 12:10 | High p_T correlations - review of experimental results
Gunther Roland (MIT) |
| 12:40 | <i>Lunch Break</i> |
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14:00-16:00 Parallel IA: High p_T , Jets and Correlations

Location: **Big Blue Hall – A**

Chair: Brian Cole

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|-------|--|
| 14:00 | Neutral pion inclusive spectra measured with ALICE
Dmitri Peressounko (Kurchatov Institute, Moscow) |
| 14:20 | Underlying event and charged particle multiplicities in inelastic pp events with the ATLAS detector
Behera Prafulla (University of Iowa) |
| 14:40 | Pi0 azimuthal anisotropy in Au+Au collisions from $\sqrt{s_{NN}}=39-200$ GeV from PHENIX: collision energy, path-length dependence of jet-quenching and the role of initial geometry
Xiaoyang Gong (Stony Brook University) |
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15:00	Qualitative and quantitative jet physics? William Horowitz (Ohio State University)
15:20	Di-hadron correlations as a measure of v_n fluctuations Paul Sorensen (BNL)
15:40	Charged particle yields and spectra in p+p and heavy ion collisions with ATLAS at the LHC Jiri Dolejsi (Charles University, Prague)
16:00	<i>Coffee Break</i>

14:00-16:00 Parallel IB: Initial Conditions

Location: **Big Blue Hall - B**

Chair: Kirill Tuchin

14:00	Heavy ion collisions in AdS ₅ Yuri Kovchegov (Ohio State University)
14:20	Analyzing the power spectrum of the "little bangs" Agnes Mocsy (Pratt Institute, New York)
14:40	Short range correlations and the EMC effect Eli Piasetzky (Tel Aviv University)
15:00	Transverse energy measurements with the ALICE calorimeters David Silvermyr (ORNL)
15:20	Recent results on QCD thermodynamics: lattice QCD versus Hadron Resonance Gas model Claudia Ratti (Wuppertal University)
15:40	Forward and backward to mid-rapidity correlations measured in d+Au collisions at $\sqrt{s_{NN}}=200$ GeV with the PHENIX detector Zvi Citron (Stony Brook University)
16:00	<i>Coffee Break</i>

14:00-16:00 Parallel IC: Photons and Dileptons

Location: **Coral A**

Chair: Wolfgang Cassing

14:00	Studying short lived sources of dileptons in baryonic matter with HADES Andrej Kugler (Nuclear Physics Institute, Rez)
14:20	Measurements of low mass e^+e^- pairs in p+p and Au+Au collisions with the HBD upgrade of the PHENIX detector Mihael Makek (Weizmann Institute of Science, Rehovot)

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|-------|---|
| 14:40 | Dilepton production in p+p collisions at $\sqrt{s_{NN}}=200$ GeV
Lijuan Ruan (BNL) |
| 15:00 | Dilepton production in the strongly interacting Quark-Gluon-Plasma
Wolfgang Cassing (Giessen University) |
| 15:20 | e/m radiation from QGP with chromo-magnetic monopoles
Michael Lublinsky (Ben-Gurion University, Beer-Sheva) |
| 15:40 | Pi0 and eta measurement with photon conversions in ALICE in proton-proton collisions at $\sqrt{s} = 7$ TeV at LHC
Kathrin Koch (Heidelberg University) |
| 16:00 | <i>Coffee Break</i> |
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16:30-18:30 Parallel IIA: High p_T Jets and Correlations

Location: **Big Blue Hall - A**

Chair: Harald Appelshaeuser

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| 16:30 | Testing the MC algorithm implementing the BDMPS formalism
Urs Wiedemann (CERN) |
| 16:50 | QCD jet physics with the CMS detector at the LHC
Joanna Weng (ETH, Zurich) |
| 17:10 | Direct jet reconstruction in p + p and Cu + Cu collisions at PHENIX
Yue Shi Lai (Columbia University) |
| 17:30 | Full jet reconstruction in heavy ion collisions
Peter Jacobs (LBNL) |
| 17:50 | Monte-Carlo simulation of heavy-ion collisions
Bjoern Schenke (McGill University) |
| 18:10 | Dynamical magnetic enhancement of light and heavy quark jet quenching at RHIC
Alessandro Buzzatti (Columbia University) |
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16:30-18:30 Parallel IIB: Heavy Flavor

Location: **Big Blue Hall - B**

Chair: Miklos Gyulassy

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| 16:30 | ATLAS J/psi studies
Camilia Maiani (INFN, Roma) |
| 16:50 | Recent PHENIX measurements of open heavy flavor decay electrons and their correlations with hadrons
Jiayin Sun (Stony Brook University) |
| 17:10 | B/D contribution to non-photonic electrons and status of non-photonic electron v_2 at RHIC
Gang Wang (UCLA) |
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- 17:30 Measurement of forward-rapidity heavy-flavour muons in proton-proton collisions at $\sqrt{s} = 7$ TeV with ALICE
Diego Stocco (SUBATECH, Nantes)
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- 17:50 Cold nuclear matter effects on quarkonium production with extrinsic transverse momentum
Andry Rakotozafindrabe (CEA, Saclay)
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- 18:10 Langevin dynamics and energy loss for a heavy quark in a strongly coupled plasma
Edmond Iancu (IPHT, Saclay)

16:30-18:30 Parallel IIC: Photons and Dileptons

Location: **Coral A**
Chair: Tom Hemmick

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- 16:30 Direct photon-hadron correlations measured with the PHENIX detector
Megan Connors (Stony Brook University)
-
- 16:50 Prompt and isolated photon capabilities of ALICE electromagnetic calorimeters
Raphaëlle Ichou (Subatech, Nantes)
-
- 17:10 Direct photon and photon-jet measurement capability of the ATLAS experiment at the LHC
Valeriy Pozdniakov (JINR, Dubna)
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- 17:30 Photon reconstruction with CMS
Anna Falkiewicz (UCB, Lyon)
-
- 17:50 Measuring isotropization time quark gluon plasma from direct photon at RHIC
Lusaka Bhattacharya (Saha Institute of Nuclear Physics, Kolkata)
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- 18:10 Direct photon production at RHIC and LHC
Fuming Liu (Central China Normal University, Wuhan)

18:45-19:45 Round Table I: Critical discussion on evidence for the CGC

Location: **Big Blue Hall - A**
Conveners: David d'Enterria (CERN)
Yuri Kovchegov (Ohio State University)

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Tuesday, 12 October 2010

09:00-10:30 Plenary 2A

Location: **Big Blue Hall - A**

Chair: Horst Stoecker

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- 09:00 Full jet tomography of high-energy nucleus-nucleus collisions
Ben-Wei Zhang (Central China Normal University, Wuhan)
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- 09:30 Monte Carlo simulations of jet quenching in HI collisions
Korinna Zapp (Durham University)
-
- 10:00 TECHQM - What has been learned from the comparison of parton energy loss models?
Marco Van Leeuwen (Utrecht University)
-
- 10:30 *Coffee Break*
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11:00-12:30 Plenary 2B

Location: **Big Blue Hall - A**

Chair: Barbara Jacak

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- 11:00 Energy loss of light quarks and gluons within AdS/CFT
Berndt Muller (Duke University)
-
- 11:30 STAR - Jet reconstruction, gamma-jet and multi-hadron correlations
Joern Putschke (Yale University)
-
- 12:00 PHENIX - Jet reconstruction, single and dihadrons and gamma- hadron correlations
Jiangyong Jia (Stony Brook University and BNL)
-
- 12:30 *Lunch Break*
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14:00-16:00 Parallel IIIA: High p_T , Jets and Correlations

Location: **Big Blue Hall - A**

Chair: Michael Tannenbaum

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- 14:00 Comparison of radiative energy loss models in a hot QCD medium
Marta Verweij (Utrecht University)
-
- 14:20 Jet production cross-section and jet properties in pp at $\sqrt{s} = 7$ TeV with the ATLAS detector
Esteban Fullana Torregrosa (CERN)
-
- 14:40 Measurements of di-jets in p+p and Au+Au in the STAR experiment
Elena Bruna (Yale University)
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- 15:00 Nonconformal holography of jets in AA: heavy quark drag through the trace anomaly
Andrej Ficnar (Columbia University)
-
- 15:20 Jets and underlying event measurements in p-p collisions at RHIC
Helen Caines (Yale University)
-
- 15:40 Decoherence and energy loss in QCD cascades in nuclear collisions
Andrei Leonidov (Lebedev Physical Institute, Moscow)
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14:00-16:20 Parallel IIIB: Future

Location: **Big Blue Hall - B**
Chair: Berndt Mueller

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- 14:00 Nucleus-nucleus collision physics at FAIR
Horst Stöcker (GSI, Darmstadt)
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- 14:20 Heavy ion program at NICA@JINR
Alexander Sorin (JINR, Dubna)
-
- 14:40 The next decade of physics with PHENIX
Barbara Jacak (Stony Brook University)
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- 15:00 The next decade of physics with STAR
James Dunlop (Brookhaven National Laboratory)
-
- 15:20 The heavy ion program of the CMS experiment
Sergey Petrushanko (Moscow State University)
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- 15:40 ATLAS HI program
Brian Cole (Columbia University)
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- 16:00 Prospects of first heavy ion physics with the ALICE experiment
Massimo Masera (INFN, Torino)
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14:00-16:00 Parallel IIIC: Heavy Flavor

Location: **Coral A**
Chair: Carlos Lourenco

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- 14:00 Heavy quarkonium production at forward rapidity in ALICE
Roberta Arnaldi (INFN, Torino)
-
- 14:20 Latest results on charmonium suppression in p-A and A-A collisions at the CERN-SPS
Enrico Scapparini (INFN, Torino)
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- 14:40 Initial state effects of J/psi production at RHIC energy: from deuteron-gold to gold-gold
Marzia Clelia Nardi (INFN, Torino)
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15:00	J/psi production at high p_T at STAR Zebo Tang (University of Science and Technology of China)
15:20	Charm and beauty production from fixed-target to LHC energies Randy Nelson (UC Davis and LLNL)
15:40	Heavy quark dynamics and single-electron spectra in heavy-ion collisions Andrea Beraudo (University of Torino)

16:30-18:00 Poster Session Cheese & Wine

Location: ***Foyer floor "B"***

18:00-19:30 Round Table II: Jet reconstruction in high background environment at RHIC and LHC

Location: ***Big Blue Hall - A***

Conveners: Andreas Morsch (CERN)
Mateusz Ploskon (LBNL)

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Wednesday, 13 October 2010

09:00-10:30 Plenary 3A

Location: **Big Blue Hall - A**

Chair: John Harris

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|-------|---|
| 09:00 | Quarkonium production
Fabio Maltoni (UCL) |
| 09:30 | J/psi suppression at forward rapidity in central d+Au collisions
Matt Wysocki (University of Colorado) |
| 10:00 | STAR - Heavy flavor production and heavy flavor induced correlations at RHIC
Wei Xie (Purdue University) |
| 10:30 | <i>Coffee Break</i> |
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11:00-12:30 Plenary 3B

Location: **Big Blue Hall - A**

Chair: Ramona Vogt

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|-------|--|
| 11:00 | Heavy quark energy loss
Miklos Gyulassy (Columbia University) |
| 11:30 | Quarkonium production and polarization in pA
Pietro Faccioli (LIP Lisbon and CERN) |
| 12:00 | Lattice, potential models, and analytical computations of quarkonia
Peter Petreczky (BNL) |
| 12:30 | <i>Lunch Break</i> |
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14:00-18:30 Free Afternoon / Excursion

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Thursday, 14 October 2010

09:00-10:30 Plenary 4A

Location: **Big Blue Hall - A**

Chair: Charles Gale

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- 09:00 Photon production at RHIC- Theory
Jianwei Qiu (BNL and Stony Brook University)
-
- 09:30 Theoretical view of SPS and RHIC dilepton measurements
Elena Bratkovskaya (Frankfurt Institute for Advanced Studies)
-
- 10:00 PHENIX-Photons and dileptons
Takao Sakaguchi (BNL)
-
- 10:30 *Coffee Break*
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11:00-12:30 Plenary 4B

Location: **Big Blue Hall - A**

Chair: Thomas Ullrich

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- 11:00 Strong vs weak coupling in the initial and final state
Jorge Casalderrey Solana (CERN)
-
- 11:30 Nuclear PDFs at NLO
Kari J. Eskola (University of Jyvaskyla)
-
- 12:00 Forward correlations and the ridge-theory
Cyrille Marquet (CERN)
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- 12:30 *Lunch Break*
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14:00-16:00 Parallel IVA: High p_T , Jets and Correlations

Location: **Big Blue Hall - A**

Chair: Nestor Armesto

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- 14:00 Back-to-back pair suppression at large transverse momentum in $\sqrt{s_{NN}} = 200$ GeV Au+Au collisions at PHENIX
Michael McCumber (University of Colorado)
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- 14:20 Jet studies in 200 GeV p+p and d+Au collisions from the STAR experiment at RHIC
Jan Kapitan (Nuclear Physics Institute, Rez)
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- 14:40 Modified DGLAP evolution for fragmentation functions in nuclei and QGP
Wei-Tian Deng (Frankfurt Institute for Advanced Studies)
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- 15:00 Jet-quenching and elliptic flow in heavy ion collisions within a pQCD based partonic transport model
Oliver Fochler (University of Frankfurt)
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15:20	Event-by-event jet quenching and higher Fourier moments of hard probes Rainer Fries (Texas A&M University and RBRC)
15:40	Tagged jets and jet reconstruction as a probe of QGP induced partonic energy loss Richard Neufeld (LANL)
16:00	<i>Coffee Break</i>

14:00-16:00 Parallel IVB: Heavy Flavor

Location: **Big Blue Hall - B**
Chair: Enrico Scomparin

14:00	Inclusive heavy flavor electron spectrum from proton-proton collisions at $\sqrt{s}=7$ TeV measured with ALICE at LHC Silvia Masciocchi (GSI, Darmstadt)
14:20	Measurements of inclusive beauty production at $\sqrt{s} = 7$ TeV with the CMS experiment Vincenzo Chiochia (University of Zurich)
14:40	Υ production in p+p, d+Au, Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV in STAR Rosi Reed (UC Davis)
15:00	Production, elliptic flow and energy loss of heavy quarks at RHIC and LHC within a partonic transport model Jan Uphoff (Frankfurt University)
15:20	Heavy quark energy loss in high multiplicity proton proton collision at LHC Sascha Vogel (Subatech, Nantes)
15:40	J/ψ production and absorption in p-nucleus and d-Au collisions Ramona Vogt (LLNL and UC Davis)
16:00	<i>Coffee Break</i>

16:30-18:30 Parallel VA: High p_T , Jets and Correlations

Location: **Big Blue Hall - A**
Chair: Carsten Greiner

16:30	Jet quenching parameter via Soft Collinear Effective Theory (SCET) Francesco D'Eramo (MIT)
16:50	Does the pQCD picture of hard scattering phenomena still hold in p+p collisions at $\sqrt{s} = 7$ TeV ? Jan Rak (Jyvaskyla University)
17:10	On angular ordering in medium-induced radiation Konrad Tywoniuk (Santiago de Compostela University)

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17:30	Mach cone induced by gamma-triggered jets in high-energy heavy-ion collisions Xin-Nian Wang (LBNL)
17:50	Quark splitting in non-trivial QCD vacuum Hongxi Xing (LBNL)
18:10	Measurement of forward jets, forward energy flow and diffractive events with CMS at highest energies German Martinez (Florida International University)

16:30-18:30 Parallel VB: Initial State

Location: ***Big Blue Hall - B***

Chair: Kari J. Eskola

16:30	Small-x physics at the Large Hadron-Electron Collider Nestor Armesto (Santiago de Compostela University)
16:50	Elliptic flow in ideal hydrodynamics with fluctuating initial conditions Hannu Holopainen (University of Jyväskylä)
17:10	Small-x DIS in the NLO Ian Balitsky (JLab and ODU)
17:30	AAMQS: a non-linear QCD phenomenological tool José Guilherme Milhano (Centra-IST, Lisbon)
17:50	Testing factorization in pA collisions at the LHC Paloma Quiroga-Arias (Santiago de Compostela University)
18:10	Rapidity and centrality dependence of azimuthal correlations in deuteron-gold collisions at RHIC Kirill Tuchin (Iowa State University)

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Friday, 15 October 2010

09:00-11:00 Plenary 5A

Location: **Big Blue Hall**

Chair: Louis Kluberg

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| 09:00 | Measurements of charm production in proton-proton collisions at $\sqrt{s}=7$ TeV with ALICE, and prospects for the Pb-Pb run
Andrea Dainese (INFN, Padova) |
| 09:30 | J/ψ and Upsilon production in pp collisions at $\sqrt{s}=7$ TeV
Carlos Lourenço (CERN) |
| 10:00 | PHENIX - Quarkonia and open heavy flavor
Anthony Frawley (Florida State University) |
| 10:30 | NA60 - New results from pA and In+In
Gianluca Usai (INFN, Cagliari) |
| 11:00 | <i>Coffee Break</i> |
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11:30-12:30 Plenary 5B

Location: **Big Blue Hall - A**

Chair: Gianluca Usai

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|-------|---|
| 11:30 | Experimental conference summary
Federico Antinori (INFN, Padova) |
| 12:00 | Theoretical conference summary
Derek Teaney (Stony Brook University) |
| 12:30 | <i>Lunch/Adjourn</i> |
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