

# **Workshop on Advances, Innovations, and Future Perspectives in High-Energy Nuclear Physics**



## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

**Sample1**

Contribution ID: 5

Type: **not specified**

## **Little Bang at Big Colliders: 40 years of ultra-relativistic heavy ion physics**

*Sunday 20 October 2024 10:10 (30 minutes)*

**Presenter:** SCHUKRAFT, Jorgen (University of Copenhagen (DK))

**Session Classification:** Plenary

Contribution ID: 6

Type: **not specified**

## China-France cooperation and achievement

*Sunday 20 October 2024 10:40 (25 minutes)*

**Presenter:** BASTID, Nicole (Université Clermont Auvergne (FR))

**Session Classification:** Plenary

Contribution ID: 7

Type: **not specified**

## **From PHOS to FoCal - 25 years of collaboration CCNU-UiB**

*Sunday 20 October 2024 11:05 (25 minutes)*

**Presenter:** ROEHRICH, Dieter (University of Bergen (NO))

**Session Classification:** Plenary

Contribution ID: 8

Type: **not specified**

## China-Italy cooperation and achievement

*Sunday 20 October 2024 11:30 (25 minutes)*

**Presenter:** ROSSI, Andrea (INFN, Padova (IT))

**Session Classification:** Plenary

Contribution ID: 9

Type: **not specified**

## ALICE Highlights

*Sunday 20 October 2024 14:00 (30 minutes)*

**Presenter:** SCHWEDA, Kai (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))

**Session Classification:** Plenary

Contribution ID: **10**

Type: **not specified**

## LHCb Highlights

*Sunday 20 October 2024 14:30 (30 minutes)*

**Presenter:** ZHU, Xianglei (Tsinghua University (CN))

**Session Classification:** Plenary



Contribution ID: **11**

Type: **not specified**

## CMS Highlights

*Sunday 20 October 2024 15:00 (30 minutes)*

**Presenter:** CHEN, Zhenyu (Shandong University (CN))

**Session Classification:** Plenary

Contribution ID: **12**

Type: **not specified**

## Tea Break

**Session Classification:** Plenary

Contribution ID: 13

Type: **not specified**

## **Heavy quark production in magnetic and rotational fields**

**Presenter:** ZHUANG, Pengfei

Contribution ID: 14

Type: **not specified**

## STAR Highlights

**Presenter:** Prof. LUO, Xiaofeng

**Session Classification:** Plenary

Contribution ID: 15

Type: **not specified**

## **Science, and reconstruction of hadronic events at the CEPC**

*Sunday 20 October 2024 16:20 (30 minutes)*

**Presenter:** RUAN, Manqi

**Session Classification:** Plenary

Contribution ID: **16**

Type: **not specified**

## **Study of QCD phase structure at RHIC**

*Sunday 20 October 2024 16:50 (30 minutes)*

**Presenter:** XU, Nu

**Session Classification:** Plenary

Contribution ID: 17

Type: **not specified**

## **Isolated photon production in pp, pPb and PbPb collisions measured with ALICE**

**Session Classification:** Welcome Speech

Contribution ID: **18**

Type: **not specified**

## **Recent measurements of dileptons and direct photons at RHIC-STAR**

**Session Classification:** Welcome Speech



Contribution ID: **19**

Type: **not specified**

## **Experimental insights from CMS in ultra-peripheral collisions**

*Tuesday 22 October 2024 08:30 (25 minutes)*

**Presenter:** YANG, Shuai (South China Normal University)

**Session Classification:** Plenary

Contribution ID: 20

Type: **not specified**

## Jet quenching and medium-response

*Tuesday 22 October 2024 08:55 (25 minutes)*

**Presenter:** YANG, Zhong (CCNU)

**Session Classification:** Plenary

Contribution ID: 21

Type: **not specified**

## **Study of EEC discrimination power on quark and gluon quenching effects in heavy-ion collisions at 5.02 TeV**

*Tuesday 22 October 2024 09:45 (25 minutes)*

**Presenter:** DAI, Wei (China University of Geosciences (Wuhan))

**Session Classification:** Plenary

Contribution ID: 22

Type: **not specified**

## Coffe Break

**Session Classification:** Welcome Speech

Contribution ID: 23

Type: **not specified**

## **How far can we see back in time in high-energy collisions using charm hadrons?**

*Tuesday 22 October 2024 10:30 (25 minutes)*

**Presenter:** BARNAFOLDI, Gergely Gabor

**Session Classification:** Plenary

Contribution ID: 24

Type: **not specified**

# Cold nuclear matter effects on jet production at the LHC

*Tuesday 22 October 2024 11:20 (25 minutes)*

**Presenter:** Dr SHAO, Dingyu (Fudan University (CN))

**Session Classification:** Plenary

Contribution ID: 25

Type: **not specified**

## **Isolated photon production in pp, pPb and PbPb collisions measured with ALICE**

*Tuesday 22 October 2024 14:00 (25 minutes)*

**Presenter:** CONESA BALBASTRE, Gustavo (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary

Contribution ID: 26

Type: **not specified**

# Observation of the Antimatter Hypernucleus Antihyperhydrogen-4

*Tuesday 22 October 2024 14:50 (25 minutes)*

**Presenter:** QIU, Hao

**Session Classification:** Plenary



Contribution ID: 27

Type: **not specified**

## Coffe Break

**Session Classification:** Welcome Speech

Contribution ID: 28

Type: **not specified**

## **Probing the flavour dependence of parton showers**

**Session Classification:** Welcome Speech

Contribution ID: 29

Type: **not specified**

## Testing CPT symmetry with multi-strange baryons mass precision measurements using ALICE

*Tuesday 22 October 2024 16:00 (25 minutes)*

**Presenter:** SCHOTTER, Romain (Stefan Meyer Institute for Subatomic Physics of the Austrian Academy of Sciences (AT))

**Session Classification:** Plenary

Contribution ID: 30

Type: **not specified**

## **Parton fragmentation from vacuum to nuclear medium**

**Session Classification:** Plenary

Contribution ID: 31

Type: **not specified**

## **Data driven studies of tracking efficiencies with charm-hadron**

**Presenter:** Mr DI BELLA, Valério

**Session Classification:** Plenary

Contribution ID: 32

Type: **not specified**

## **HBT correlation in heavy-ion collisions with a hard process**

*Wednesday 23 October 2024 08:30 (25 minutes)*

**Presenter:** Prof. KE, Weiyao (Central China Normal University)

**Session Classification:** Plenary

Contribution ID: 33

Type: **not specified**

## Overview of experimental results on open heavy-flavour hadronization

*Wednesday 23 October 2024 09:20 (25 minutes)*

**Presenter:** ROSSI, Andrea (INFN, Padova (IT))

**Session Classification:** Plenary

Contribution ID: 34

Type: **not specified**

## **Probing the quark-gluon plasma with heavy-flavour hadrons**

*Wednesday 23 October 2024 09:45 (25 minutes)*

**Presenter:** GROSA, Fabrizio (CERN)

**Session Classification:** Plenary



Contribution ID: 35

Type: **not specified**

## coffee break

**Session Classification:** Welcome Speech

Contribution ID: 36

Type: **not specified**

## **Search for the Chiral Magnetic Effect with Forced Match of Multiplicity and Elliptic Flow in Isobar Collisions at STAR**

**Session Classification:** Welcome Speech

Contribution ID: 37

Type: **not specified**

## The ALICE upgrade program

**Session Classification:** Welcome Speech

Contribution ID: **38**

Type: **not specified**

## **Prospects and challenges for LHCb upgrades**

**Session Classification:** Welcome Speech

Contribution ID: 39

Type: **not specified**

## Heavy quark production in magnetic and rotational fields

*Monday 21 October 2024 08:30 (30 minutes)*

**Presenter:** ZHUANG, Pengfei

**Session Classification:** Plenary

Contribution ID: 40

Type: **not specified**

# Global quark spin correlations in relativistic heavy ion collisions

*Monday 21 October 2024 09:00 (30 minutes)*

**Presenter:** LIANG, Zuo-tang (Shandong University)

**Session Classification:** Plenary

Contribution ID: 41

Type: **not specified**

## **Soft physics for high energy nucleus-nucleus collisions**

*Monday 21 October 2024 09:30 (30 minutes)*

**Presenter:** SONG, Huichao

**Session Classification:** Plenary

Contribution ID: 42

Type: **not specified**

## **extraction of sound velocity in ultra-central heavy-ion collisions**

**Presenter:** YAN, Li (Fudan University)



Contribution ID: 43

Type: **not specified**

## ALICE detector development at CCNU

*Monday 21 October 2024 15:00 (30 minutes)*

**Presenter:** YIN, Zhong-Bao (Central China Normal University CCNU (CN))

**Session Classification:** Plenary

Contribution ID: 44

Type: **not specified**

## ALICE 3 physics programme

**Presenter:** MAIRE, Antonin (IPHC - Strasbourg (CNRS-In2p3/Unistra))

**Session Classification:** Plenary

Contribution ID: 45

Type: **not specified**

## **Efficient scientific computing with the ALICE event processing nodes GPU-based farm**

*Monday 21 October 2024 17:15 (30 minutes)*

**Presenter:** RONCHETTI, Federico (CERN)

**Session Classification:** Plenary

Contribution ID: 46

Type: **not specified**

## **Spin polarization phase transition and transportation of QGP at finite temperature in the presences of magnetic field and rotation**

*Wednesday 23 October 2024 10:55 (25 minutes)*

**Presenter:** FENG, Sheng-Qin

**Session Classification:** Plenary

Contribution ID: 47

Type: **not specified**

## Collectivity from the STAR BES program

*Wednesday 23 October 2024 14:00 (25 minutes)*

**Presenter:** SHI, Shusu

**Session Classification:** Plenary

Contribution ID: 48

Type: **not specified**

## Extraction of sound velocity in ultra-central heavy-ion collisions

*Wednesday 23 October 2024 14:25 (25 minutes)*

**Presenter:** YAN, Li (Fudan University)

**Session Classification:** Plenary

Contribution ID: 49

Type: **not specified**

## **Imaging shapes of atomic nuclei in High-Energy Nuclear collisions**

*Wednesday 23 October 2024 14:50 (25 minutes)*

**Presenter:** ZHANG, Chunjian

**Session Classification:** Plenary

Contribution ID: 50

Type: **not specified**

## **Unveiling the origin of QGP-like effects in pp and p-Pb collisions using flattenicity**

*Wednesday 23 October 2024 16:25 (25 minutes)*

**Presenter:** ORTIZ VELASQUEZ, Antonio

**Session Classification:** Plenary



Contribution ID: 51

Type: **not specified**

## **Study jet-induced medium response within CoLBT-hydro model**

**Presenter:** YANG, Zhong (CCNU)

Contribution ID: 52

Type: **not specified**

# Quarkonium production in heavy-ion collisions

*Tuesday 22 October 2024 16:25 (25 minutes)*

**Presenter:** BAI, Xiaozhi (University of Science and Technology of China (USTC))

**Session Classification:** Plenary

Contribution ID: 53

Type: **not specified**

## Lattice determination of heavy quark diffusion

*Tuesday 22 October 2024 10:55 (25 minutes)*

**Presenter:** Mr SHU, HaiTao

**Session Classification:** Plenary

Contribution ID: 54

Type: **not specified**

## Density dependent QCD effects in pp collisions

*Monday 21 October 2024 10:50 (30 minutes)*

**Presenter:** MORSCH, Andreas (CERN)

**Session Classification:** Plenary

Contribution ID: 55

Type: **not specified**

## **Parton fragmentation from vacuum to nuclear medium**

*Monday 21 October 2024 11:20 (30 minutes)*

**Presenter:** XING, Hongxi (South China Normal University)

**Session Classification:** Plenary

Contribution ID: 56

Type: **not specified**

## **Light and heavy flavor jet quenching in relativistic heavy-ion collisions**

*Monday 21 October 2024 11:50 (30 minutes)*

**Presenter:** CAO, Shanshan (Shandong University)

**Session Classification:** Plenary

Contribution ID: 57

Type: **not specified**

## **The development of Si detector in ALICE: from ITS2 to ITS3**

*Monday 21 October 2024 14:30 (30 minutes)*

**Presenter:** FANTONI, Alessandra (INFN e Laboratori Nazionali di Frascati (IT))

**Session Classification:** Plenary

Contribution ID: 58

Type: **not specified**

## Prospects and challenges for LHCb upgrades

*Monday 21 October 2024 16:25 (25 minutes)*

**Presenter:** GUITTIERE, Manuel (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary



Contribution ID: 59

Type: **not specified**

## Detector development at CIAE

*Monday 21 October 2024 17:45 (30 minutes)*

**Presenter:** LI, Xiaomei (China Institute of Atomic Energy (CN))

**Session Classification:** Plenary

Contribution ID: **60**

Type: **not specified**

# Multiplicity-dependent quarkonium production

*Tuesday 22 October 2024 15:15 (25 minutes)*

**Presenter:** URAS, Antonio (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary

Contribution ID: **61**

Type: **not specified**

## Overview of recent HF highlights results

*Wednesday 23 October 2024 08:55 (25 minutes)*

**Presenter:** TERREVOLI, Cristina (Universita e INFN, Bari (IT))

**Session Classification:** Plenary

Contribution ID: 62

Type: **not specified**

## **Spin polarization of $\Lambda$ hyperons along beam direction in p+Pb collisions using hydrodynamic approaches**

*Wednesday 23 October 2024 11:45 (25 minutes)*

**Presenter:** YI, Cong

**Session Classification:** Plenary

Contribution ID: 63

Type: **not specified**

## Constraining the gluon helicity at STAR

*Wednesday 23 October 2024 16:50 (25 minutes)*

**Presenter:** LIN, Ting

**Session Classification:** Plenary

Contribution ID: 66

Type: **not specified**

## China-Italy cooperation and achievement

**Presenter:** ROSSI, Andrea (INFN, Padova (IT))

Contribution ID: 67

Type: **not specified**

## **ALICE-China cooperation and achievement**

*Sunday 20 October 2024 11:55 (25 minutes)*

**Presenter:** ZHOU, Daicui (Central China Normal University CCNU (CN))

**Session Classification:** Plenary

Contribution ID: **68**

Type: **not specified**

## ATLAS Highlights

*Sunday 20 October 2024 15:30 (30 minutes)*

**Presenter:** HU, Qipeng (University of Science and Technology of China (CN))

**Session Classification:** Plenary



Contribution ID: 69

Type: **not specified**

## **Deep learning for nuclear equation of state at extreme conditions**

**Presenter:** PANG, LongGang (Central China Normal University)

**Session Classification:** Plenary

Contribution ID: 70

Type: **not specified**

## Heavy flavour production in LHCb

*Monday 21 October 2024 10:00 (30 minutes)*

**Presenter:** HE, Jibo (University of Chinese Academy of Sciences (CN))

**Session Classification:** Plenary

Contribution ID: 71

Type: **not specified**

## Probing the flavour dependence of parton showers

*Tuesday 22 October 2024 09:20 (25 minutes)*

**Presenter:** ZARDOSHTI, Nima (CERN)

**Session Classification:** Plenary

Contribution ID: 72

Type: **not specified**

## Classical description of quark interactions

*Tuesday 22 October 2024 11:45 (25 minutes)*

**Presenter:** TAN, Zhiguang

**Session Classification:** Plenary

Contribution ID: 73

Type: **not specified**

## QCD Challenges

*Tuesday 22 October 2024 14:25 (25 minutes)*

**Presenter:** PETROVICI, Mihai (Horia Hulubei National Institute of Physics and Nuclear Engineering (RO))

**Session Classification:** Plenary

Contribution ID: 74

Type: **not specified**

## **First observation of (B0 -> D- pi+) signal in ALICE (pp 13.6 TeV)**

**Presenter:** BIGOT, Alexandre (Centre National de la Recherche Scientifique (FR))

Contribution ID: 75

Type: **not specified**

# Quarkonium production in pp and p-Pb collisions

*Tuesday 22 October 2024 16:50 (25 minutes)*

**Presenter:** FEUILLARD, Victor Jose Gaston (Heidelberg University (DE))

**Session Classification:** Plenary

Contribution ID: 76

Type: **not specified**

## Prompt/non-prompt Jpsi production in ALICE

*Tuesday 22 October 2024 17:15 (25 minutes)*

**Presenter:** COQUET, Maurice (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary



Contribution ID: 77

Type: **not specified**

## Quarkonium photoproduction in peripheral PbPb and ultra-peripheral collisions

*Tuesday 22 October 2024 17:40 (25 minutes)*

**Presenter:** ARSENE, Ionut Cristian (University of Oslo (NO))

**Session Classification:** Plenary

Contribution ID: 78

Type: **not specified**

## Spin polarization in A+A and p+A collisions

*Wednesday 23 October 2024 10:30 (25 minutes)*

**Presenter:** PU, Shi

**Session Classification:** Plenary

Contribution ID: 79

Type: **not specified**

## **Probing collectivity with fluctuations of the $pt$ spectrum**

*Wednesday 23 October 2024 15:15 (25 minutes)*

**Presenter:** OLLITRAULT, Jean-Yves

**Session Classification:** Plenary

Contribution ID: **80**

Type: **not specified**

# **W and Z production in hadronic collisions with ALICE**

*Wednesday 23 October 2024 15:40 (25 minutes)*

**Presenter:** STOCCO, Diego (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary

Contribution ID: **81**

Type: **not specified**

## **Anisotropic flow measurements in small collision systems**

**Presenter:** ZHAO, Mingrui (China Institute of Atomic Energy (CN))

Contribution ID: 82

Type: **not specified**

## **Exploring nuclear structure with multiparticle azimuthal correlations at the LHC**

**Presenter:** LU, Zhiyong (China Institute of Atomic Energy (CN))

Contribution ID: 83

Type: **not specified**

## Deep learning for nuclear equation of state at extreme conditions

*Thursday 24 October 2024 09:00 (25 minutes)*

**Presenter:** PANG, LongGang (Central China Normal University)

**Session Classification:** Plenary

Contribution ID: 84

Type: **not specified**

## Exploring nuclear structure with multiparticle azimuthal correlations at the LHC

*Thursday 24 October 2024 09:25 (25 minutes)*

**Presenter:** LU, Zhiyong (China Institute of Atomic Energy (CN))

**Session Classification:** Plenary



Contribution ID: 85

Type: **not specified**

## **External magnetic field induced paramagnetic squeezing effect in heavy-ion collisions at the LHC**

*Thursday 24 October 2024 09:50 (25 minutes)*

**Presenter:** JIANG, Zefang

**Session Classification:** Plenary

Contribution ID: 86

Type: **not specified**

## **Nonperturbative heavy quark transport in a semi-Quark-Gluon-Plasma**

*Thursday 24 October 2024 10:35 (25 minutes)*

**Presenter:** LI, Shuang (China Three Gorges University)

**Session Classification:** Plenary

Contribution ID: 87

Type: **not specified**

## **Search for the chiral magnetic effect with forced match of multiplicity and elliptic flow in isobar collisions at STAR**

*Thursday 24 October 2024 11:00 (25 minutes)*

**Presenter:** Dr LIN, Yufu (Guangxi Normal University,)

**Session Classification:** Plenary

Contribution ID: **88**

Type: **not specified**

## **Exotic states production in nuclear collisions at the LHC energy**

*Thursday 24 October 2024 11:25 (25 minutes)*

**Presenter:** SHE, Zhilei

**Session Classification:** Plenary

Contribution ID: 89

Type: **not specified**

## Closing Remarks

*Thursday 24 October 2024 11:50 (25 minutes)*

**Presenter:** ZHANG, Xiaoming (Central China Normal University CCNU (CN))

**Session Classification:** Plenary

Contribution ID: **90**

Type: **not specified**

## The ALICE upgrade program

*Monday 21 October 2024 14:00 (30 minutes)*

**Presenter:** VAN LEEUWEN, Marco (Nikhef National institute for subatomic physics (NL))

**Session Classification:** Plenary

Contribution ID: **91**

Type: **not specified**

## **MAPS chip R&D at CCNU**

*Monday 21 October 2024 16:50 (25 minutes)*

**Presenter:** SUN, Xiangming

**Session Classification:** Plenary

Contribution ID: 92

Type: **not specified**

## **Distilling circularly polarized photon emission from magnetized chiral plasmas**

*Wednesday 23 October 2024 11:20 (25 minutes)*

**Presenter:** WANG, Xinyang

**Session Classification:** Plenary



Contribution ID: 93

Type: **not specified**

## **First observation of (B0 -> D- pi+) signal in ALICE (pp 13.6 TeV)**

**Presenter:** BIGOT, Alexandre (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary

Contribution ID: 94

Type: **not specified**

## **Anisotropic flow measurements in small collision systems**

*Wednesday 23 October 2024 17:15 (25 minutes)*

**Presenter:** ZHAO, Mingrui (China Institute of Atomic Energy (CN))

**Session Classification:** Plenary

Contribution ID: 95

Type: **not specified**

## **Probe element synthesis in star with deep underground JUNA facility**

*Sunday 20 October 2024 17:20 (30 minutes)*

**Presenter:** LIU, Weiping

**Session Classification:** Plenary

Contribution ID: 96

Type: **not specified**

## Collectivity: Prospects and Future Directions

*Sunday 20 October 2024 17:50 (35 minutes)*

**Presenter:** JIA, Jiangyong (Stony Brook University (US))

**Session Classification:** Plenary

Contribution ID: 97

Type: **not specified**

## ALICE 3 physics programme

*Monday 21 October 2024 15:30 (30 minutes)*

**Presenter:** MAIRE, Antonin (IPHC - Strasbourg (CNRS-In2p3/Unistra))

**Session Classification:** Plenary

Contribution ID: **98**

Type: **not specified**

## Greetings

*Monday 21 October 2024 16:20 (5 minutes)*

**Presenter:** MASCIOCCHI, Silvia (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))

**Session Classification:** Plenary